



British Birds

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NATURAL HISTORY
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North American landbirds in Britain

New to Britain: *Fregetta* storm-petrel in Avon

Nest productivity of Woodlarks

Bird Book of the Year 2013



British Birds

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Front-cover photograph: Adult male White-crowned Sparrow *Zonotrichia leucophrys*,
Cley, Norfolk, February 2008. *Robin Chittenden*



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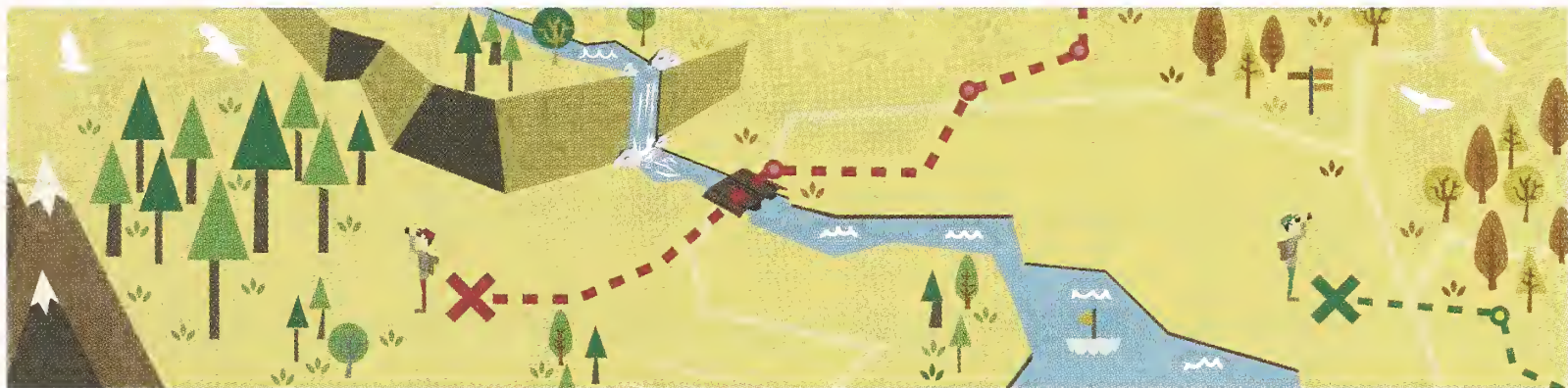
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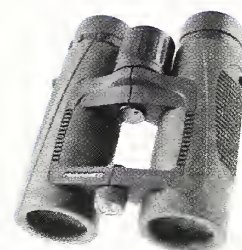
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British Birds

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Americans – loud/colourful/exaggerated/quarrelsome (I could go on). Birds, I'm talking about. Tom Bond's analysis of the occurrence patterns and arrival routes of North American landbirds in this issue brings up to date a topic that has been visited more than once before in the pages of *BB*, but the subject matter is one that most readers find 'properly gripping' (to use one of Colin Bibby's favourite phrases in the days when he was a judge for Bird Book of the Year). Notwithstanding the fact that 'Sibes' are (arguably) often the more elegant and visually stunning of birds, 'Yanks' wow us with the fact that they have crossed the Atlantic to reach our shores. Go back 60–70 years and very few people believed that landbirds were physically capable of such a crossing. Small wonder then that finding an American passerine is a lifetime highlight for many British birders.

Finding an American passerine is one thing, finding a bird new to Britain is quite another. I still live in hope, anyway. The finders' account of a *Fregetta* petrel in Avon, published in this issue, has been a long time coming for a number of reasons. When finalising the article, and imagining the spectrum of emotions among the group that found it, on a blustery morning in November 2009 at the splendidly named Burger Bar Ramp, I couldn't help but think about the fine line between success and failure for a record such as this. In this particular case, several observers managed to see the bird pretty well, and the consistency of their accounts made the record acceptable, even though pinning it down to species level was just not possible. An earlier seawatching claim from Norfolk became mired in controversy when the observers who saw the bird disagreed about what they had seen – which then creates an almost impossible situation for rarity assessors (see p. 91). What should have been one of those lifetime highlights (as it undoubtedly was for those observers at Severn Beach) can so easily turn sour; and the aftertaste of a bad experience can last just as long – if not longer – than a good one. The highs and lows of birding...

Roger Riddington



British Birds aims to: ❖ provide an up-to-date magazine for everyone interested in the birds of the Western Palearctic; ❖ publish a range of material on behaviour, conservation, distribution, ecology, identification, movements, status and taxonomy as well as the latest ornithological news and book reviews; ❖ maintain its position as the journal of record; and ❖ interpret scientific research on birds in an easily accessible way.

Bird Atlas 2007–11

What do you think of the Atlas? It's a subject I've heard discussed so many times since the book was published, last November. The question is not difficult to answer. It's a fantastic achievement, the most important British and Irish bird book for decades. It's a superb example of what a team of enthusiastic volunteers can do and, perhaps most importantly, it provides a mass of information to guide conservation and research many years into the future. I firmly believe that these and many similar accolades are well deserved – but then I would say that wouldn't I?

My involvement in the current atlas goes back about 12 years (to a meeting of BTO Council when the proposal to embark on the project first came to the table), and developed through my participation in the Atlas Working Group and then the five years of fieldwork. Throughout the entire project the intention was always to publish the results in a book. At the beginning, that goal seemed very distant but now *Bird Atlas 2007–11* has arrived and I want to use the opportunity of this *BB eye* to give my personal reaction to it.

When I received my copy, my very first thought was: 'It's heavy!' I cleared a space on my bookshelves alongside the three earlier distribution atlases and saw how it dwarfed its predecessors – this is an imposing tome. At this stage my mind wandered to past discussions about the demise of books – how paper will be replaced by e-readers and online publications. Perhaps, but my shelves give no clue that this will happen in the near future! And from what I hear, this is already the best-selling BTO publication ever, so I'm not the only one who still appreciates a 'good, old-fashioned' book! Why is it so big? A quick flick through the species accounts soon answers that question. With up to seven maps of Britain & Ireland displaying summer and winter distribution, relative abundance and change for most species recorded during the Atlas fieldwork, it has to be big. The text, photographs and other items included in the accounts have been kept deliberately small to allow maximum space for the maps. If I have

one grumble, it would be that the maps are still on the small side, but would I want an even bigger book to accommodate larger maps? Certainly not.

Having felt the weight, what about the quality? I'm not thinking of the production quality, which seems to be very good, but the quality of the information. What does the Atlas tell us? I'm sure I'm not alone in skimming through the first few chapters and heading swiftly to the species accounts. The first accounts I looked at were for heathland species, including Woodlark *Lullula arborea* and Dartford Warbler *Sylvia undata*, special favourites of mine from my patch on the Thames Basin Heaths. There were no real surprises here. The maps confirm the findings of earlier national surveys showing how the ranges of both species have expanded north from their southern strongholds. Two good-news stories, perhaps due in part to the extensive heathland restoration work carried out over the past two decades, but it's no coincidence that the population growth occurred during a period with a run of mild winters. More recently, both species have declined in my local area as a result of harsh winters. Their populations on the Thames Basin Heaths SPA are now below the counts made in the late 1990s, which were the basis for designating the SPA. The Atlas maps don't show these more recent results, which made me ponder whether the declines have occurred elsewhere, and whether the range maps in the Atlas are optimistic.

I then looked at some of our key farmland species, which have declined so dramatically in Hampshire and elsewhere. There are some disappointing, and sometimes surprising, stories here. The Tree Sparrow *Passer montanus* has become extinct as a breeding bird in Hampshire and throughout much of south-east England, yet the species has made gains in northeast Scotland and Ireland. The Yellow Wagtail *Motacilla flava*, another breeding species lost from Hampshire, also shows continuing declines in the south; Grey Partridges *Perdix perdix*, Turtle Doves *Streptopelia turtur*

and Corn Buntings *Emberiza calandra* can all still be found in my home county but seeing them nowadays is a notable event.

The breeding change maps show that many of the downward trends in these and other farmland species were already apparent 40 years ago. Plenty of research has been done in the interim to discover the reasons. The Atlas accounts refer to the now-familiar tale of the effects of farming intensification: the reduction in winter food supply with the spread of autumn-sown cereals; increased use of agrochemicals; the disappearance and degradation of field margins; the reduced availability of invertebrates as a result of pesticide usage, etc. Based on these findings, considerable efforts have been made to reverse the slide, beginning with the first agri-environment scheme in 1986 and leading to the introduction of Environmental Stewardship in 2005. Regrettably, there is little evidence in the Atlas that these measures are adequate: populations of farmland birds are not recovering. And, when I moved on to woodland birds, such as Lesser Spotted Woodpecker *Dendrocopos minor*, Willow Tit *Poecile montanus* and Wood Warbler *Phylloscopus sibilatrix*, followed by breeding waders such as Northern Lapwing *Vanellus vanellus*, Common Redshank *Tringa totanus* and Common Snipe *Gallinago gallinago*, it confirmed that these species too are on a very slippery downward slope. None of these declines was unexpected but seeing them all together and so graphically illustrated by the Atlas change maps was telling.

We can be rightfully proud of our efforts to map the changing fortunes of our birds. I doubt that any other country in the world can claim such a comprehensive record of both its breeding and its wintering species. But can we be equally satisfied with what our country has done to address the large-scale losses from our wider countryside? Shouldn't we as a nation be doing more to turn around those declines? At the end of last year, the Government announced its decision to increase the share of CAP (Common Agricultural Policy) funding going to environmental protection by a lower percentage than originally promised. Instead, a review will be

carried out in 2016, with the possibility of moving to the higher rate of funding in 2017 and 2018. I want to see the Atlas results used as forcibly as possible to contribute to and influence this debate. It's clear that more needs to be done and we can all help by shouting those results from the rooftops: local newspapers, social media, lobbying our MPs, and more.

It won't be easy to turn things around. Against a background of changing climate, rapid population growth, increased demands on land and food both at home and abroad – not to mention the ebb and flow of national politics – some of our familiar and widespread birds, species we have known throughout our lives, may be destined for continuing decline.

The news is not uniformly bad, however. At the time of the 1988–91 Atlas, Red Kite *Milvus milvus*, Peregrine Falcon *Falco peregrinus* and Goshawk *Accipiter gentilis* were not proved breeding in Hampshire; today all three are well established. There are other newcomers too: Goosander *Mergus merganser*, Little Egret *Egretta garzetta*, Great Cormorant *Phalacrocorax carbo*, Avocet *Recurvirostra avosetta*, Lesser Black-backed Gull *Larus fuscus* and Common Raven *Corvus corax* (returning after an absence of over 100 years). Perhaps most surprising of all, and surely unexpected from a global warming perspective, is that we now have Common Eider *Somateria mollissima* breeding in the county! Excluding the raptors, all these have colonised Hampshire over the last two decades under their own steam and, in some cases, in the face of hostility from *Homo sapiens*. From a species diversity standpoint we have gained more than we have lost.

I will finish as I began, with a question. Do we accept as inevitable that our bird diversity and numbers will change, and learn to live with that, or do we do everything we can to retain the countryside birds that we have grown up with? My answer would be that these two options are not mutually exclusive. Let's celebrate the newcomers and do our damndest to retain the old guard.

John Eyre

What do you think? Join the debate at www.britishbirds.co.uk/category/editorials

News and comment

Compiled by Adrian Pitches

Opinions expressed in this feature are not necessarily those of *British Birds*

Tiny tag reveals record-breaking phalarope migration

A tracking device weighing less than a paperclip has shown that a Red-necked Phalarope *Phalaropus lobatus* from the tiny Shetland breeding population migrated thousands of kilometres west across the Atlantic to the Pacific Ocean, a journey never recorded for any other European breeding bird.

In 2012, the RSPB, working in collaboration with the Swiss Ornithological Institute and the Shetland Ringing Group, fitted individual geolocators to ten breeding Red-necked Phalaropes on Fetlar, in Shetland, in the hope of learning where they spend the winter.

After successfully recapturing one of the tagged birds when it returned to Fetlar last spring, scientists discovered that it had made an epic 25,000-km round trip during its annual migration – flying from Shetland across the Atlantic, south down the eastern seaboard of the USA, across the Caribbean, and Mexico, ending up off the coast of Peru. After

wintering in the Pacific, it returned to Fetlar via a similar route.

Prior to this, many experts had assumed that phalaropes breeding in Scotland joined the Scandinavian population at their wintering grounds, thought to be in the Arabian Sea. Yet the destination of this Shetland Red-necked Phalarope was the Pacific Ocean.

In winter, phalaropes congregate in large flocks at sea in regions where currents create upwellings of cold, nutrient-rich water and support blooms of plankton on which the birds feed. By continuing the project and retrieving more tags from phalaropes after the next winter migration, experts hope to learn the extent to which the Red-necked Phalarope, one of the UK's rarest breeding birds, may be affected by future changes at sea, how the species might respond to any changes and whether any negative impacts in these wintering areas can be miti-

gated by conservation management here in the UK.

The RSPB's Malcie Smith said: 'Intriguingly, if the usual wintering area of Scottish Red-necked Phalaropes is indeed in the eastern Pacific, then this Scottish breeding bird may be directly affected by periodic El Niño events when these Pacific waters become warmer and the supply of plankton is greatly reduced. With that in mind, the project, which we will continue, will be vital when considering any future conservation of this bird.'



George Petrie

30. Hard at work on Fetlar in June 2013, Shetland Ringing Group's Dave Okill (left), with a Red-necked Phalarope *Phalaropus lobatus* (centre) and Fetlar RSPB warden Malcie Smith.

Golden Eagle found poisoned in the Angus Glens

RSPB Scotland has condemned those responsible for the killing of a satellite-tagged Golden Eagle *Aquila chrysaetos*, found poisoned on the hills above Glen Lethnot in Angus & Dundee.

The bird was discovered after Roy Dennis, of the Highland Foundation for Wildlife, who was

monitoring the eagle's movements, became suspicious when the bird's satellite signal remained static for several days. He alerted the police and RSPB Scotland investigations staff, who later visited the area – which is intensively managed for grouse shooting – and a search of the moor

allowed the recovery of the dead bird.

Tests carried out by the Scottish Government laboratory of Science and Advice for Scottish agriculture confirmed that the eagle had been poisoned. It had been ringed as a chick in a nest near Loch Tay, in Perth & Kinross, in June 2011 and had spent much of its life in Badenoch, before moving to the Angus glens in early November. Just three weeks later, it had been poisoned.

Stuart Housden, Director of RSPB Scotland, said: 'This appalling incident involving a species recently voted as the nation's favourite bird, marks a dreadful end to the Year of Natural Scotland. Incidents such as this show very clearly why this iconic bird needs not just our recognition, but also greater protection. We sincerely hope that those responsible are swiftly brought to justice and would encourage those with information to come forward.'

In the past five and a half years, another four Golden Eagles, a Red Kite *Milvus milvus* and seven Common Buzzards *Buteo buteo* have been shot, poisoned or trapped on sporting estates in the Angus glens. In January 2013, the nest tree of a pair of White-tailed Eagles *Haliaeetus albicilla* was felled. No-one has been prosecuted for any of these offences.

Mr Housden added: 'I will be asking the environment spokesperson of all the parties in the Scottish Parliament to take cross-party action to stiffen the penalties for those convicted of such offences and to look again at the regulation of sport shooting. The current state of affairs is simply unacceptable.'

A recent report by RSPB Scotland revealed that a significant number of incidents of illegal killing of birds of prey took place in areas managed for driven grouse shooting.

RSPB responds to future of aviation report

The Davies Commission into the future of aviation has once again highlighted the environmental destruction an airport in the Thames Estuary would cause. In his report, Sir Howard favours new runways at existing airports, with Heathrow ahead of Gatwick. But he has included a second-division level of a new airport on Kent's Hoo Peninsula in the Thames Estuary, which he acknowledges would be both expensive (up to £112 billion) and environmentally damaging.

The RSPB believes that further airport expansion will undermine efforts to reduce our climate impact in the UK, and that further scrutiny of an option in the Thames Estuary will lead to it being ruled out completely.

The tidal mudflats, saltmarsh and reedbeds that line the estuary are one of the most important

wildlife habitats in Europe, home to a rich ecosystem which includes hundreds of thousands of threatened wintering birds. It is designated with the highest environmental protection available.

Sue Armstrong-Brown, RSPB head of policy, said: 'Every time a spotlight is put on the Thames Estuary as a potential site for an airport it is revealed to be both an environmental disaster and economic lunacy. The more scrutiny put on this proposal, the more clear it will be for all concerned that it is a non-starter. However, climate change remains the greatest long-term threat to wildlife. We believe there should be no further airports in this country until the Government can demonstrate how they can be built and operated without busting our legally binding climate targets.'

'Bird's-eye views': a new perspective

Detecting food or identifying predators and other close objects are key to how birds control flight, rather than looking ahead or below, according to research published by ornithologists from the University of Birmingham.

What birds see and just what they are looking at as they fly over is far from a 'Google Earth view' of the world. This new analysis of the visual worlds of over 50 species of birds shows that there are just as many ways of seeing the world as there are species, and none of them involves simply looking down and seeing the world as we would from an aircraft or high vantage point.

Looking into the eyes of birds has shown that each species has a different way of extracting

information from the world about them and that this is tuned primarily to the exacting tasks of foraging and being able to control the position of the bill with high accuracy. Controlling flight and getting an overview of the world ahead and below is a minor consideration in driving the evolution of bird's-eye views.

'The cliché, the bird's-eye view, needs a makeover – the prime shaper of bird vision turns out to be the location of objects close by, estimating how long it will take the bill tip to reach them, and ensuring that the bill arrives bang on target,' said Prof. Graham Martin from the University of Birmingham, the author of this survey on bird vision. 'Seeing what lies ahead and below in

flight is not that important, what occupies most birds are near things, close objects that are edible, or chicks in the nest. Detecting and locating them with high accuracy are what drives the overall visual capacities of birds.'

Graham Martin has reviewed work on bird vision that he and others have conducted over the last 30 years. 'At one time I followed the traditional view that the challenges of flight have been the real driving force in the evolution of how birds see the world, but now I argue that it is all to do with close objects and controlling the bird's bill. Getting to a nearby object and opening the bill at the right moment to grasp it with a high degree of precision is what is really important, next most important is detecting whether a predator is coming, third is whether the bird can place food accurately in its chick's mouth, and only last do the requirements for controlling flight, and looking out ahead and below have any bearing on how birds see the world.'

He continued: 'Humans have always been fascinated and envious of birds' ability to fly, and we have assumed that it is a challenging task that really requires seeing the world in a special way. We have always assumed that a bird's-eye view is what we experience when looking down from a height, when all is made clear and simple to us, hence the popular notion of a bird's-eye view. But flight is just one aspect of birds' daily lives; finding food and detecting predators are the real all-day, everyday, survival tasks of birds, and it now seems clear that bird's-eye views are tuned to these tasks, not to flight and getting the overall picture of what lies ahead and below.'

'The subtlety of simple eyes: the tuning of visual fields to perceptual challenges in birds' is published in *Philosophical Transactions of the Royal Society B*, available online <http://rstb.royalsocietypublishing.org/content/369/1636/20130040.abstract>

Birding World 1987–2014

The announcement that *Birding World* would cease publication with the January 2014 issue was sad news for birders who've looked forward to its timely reports on rare birds every month for the past 27 years. Steve Gantlett and Richard Millington tapped into their readers' desire for rapid rarity reports as twitching took in the era of Birdline, pagers and, in due course, rarity news on the internet.

Now that finders' accounts appear online within hours of a rare bird being sighted, the desire of Steve and Richard to step off the monthly publishing treadmill and spend even more time birding is entirely understandable.

N&c was a subscriber from the first issue of *Twitching*, the forerunner of *Birding World*. It's interesting to note that one of the first 'megas' featured was the Brünnich's Guillemot *Uria lomvia* in Shetland in February 1987; the same species featured prominently in the final issue too – the long-stayer in Portland Harbour in December 2013.

So *British Birds* once again becomes the only monthly journal for the UK's birders available solely by subscription. Many of our readers will have been *Birding World* subscribers too – but plenty of *BW* readers may need reminding what an essential monthly read *BB* is! We want as many new recruits as possible so that our subscriber base remains sufficient to ensure that *BB* remains the vibrant, agenda-setting journal we hope you look forward to receiving every month.

There's a special offer for *Birding World* subscribers only: £25 for their first year's *BB* subscription. Please spread the word.

Artwork on the cover of BB

Richard Millington's vivid painting 'D. minor' was on the front of the last issue of *BW* and this seems an opportune moment to remind readers that *BB* is not averse to artwork on its cover either. In the past decade, there have been very few artwork covers, and while the large majority of future covers are likely to remain photographic, we do encourage anyone willing to come up with a suitable piece of art to get in touch. More details are available at www.britishbirds.co.uk/about/how-to-contribute

African Bird Club – 20th anniversary meeting

This year's annual meeting of the ABC at the Natural History Museum in London marks the club's 20th anniversary and all founder members have been invited to attend. Following its launch in the UK in 1994, the ABC has expanded its activities in Africa significantly and last year alone spent £30,000 on conservation grants. This took total funding of conservation initiatives to £170,000 across 170 projects in 32 countries.

Speakers at the meeting on Saturday 12th April include: Achilles Byaruhanga from Uganda, looking at the State of Africa's Birds; Roger Safford, outlining recent discoveries in the Malagasy region; Tim Birkhead, on weaver birds and honeyguides, and how promiscuity is widespread amongst these families in Africa; David Pearson, looking back on four decades of intensive bird ringing at Ngulia in Kenya; and Jim Reynolds, 'turning' back the clock to look at lessons learnt from 20 years of fieldwork on Ascension Island.

Fanfare for the White-winged Scoter

Is this the way forward for announcing additions to the British List? A feature on BBC's *The One Show* in August about the work of rarities committees included the announcement of the BOURC's acceptance of White-winged Scoter *Melanitta deglandi* as a new British bird.

Photographs of what appears to be the first British record of 'Stejneger's Scoter' *M. d. stejnegeri* (the Asian form of White-winged) – in Lothian, on Boxing Day last year – have just come to light. The use of cheerleaders to greet the arrival of the American *deglandi* on the British List was a novel touch; perhaps we'll be treated to Cossack dancers for *stejnegeri*?



31. Fanfare for the White-winged Scoter. The rumour from the BBRC Secretary, who sent us this pic, is that the third cheerleader from the left is the next BBRC chairman, but at the time of writing we are unable to confirm that...

New county bird recorders

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The Great White Egret in Europe: the colonisation continues

After last month's paper about the population spread of Great White Egrets *Ardea alba* in Europe (*Brit. Birds* 107: 8–25), it is worth noting that in 2013 another European country joined the list where the species has bred: one pair produced two fledglings at Lake Neuchâtel in Switzerland (thanks to Peter Knaus of the Swiss Ornithological Institute for the report, via Łukasz Ławicki, the author of the paper in *BB*).

BB Bird Photograph of the Year 2014

The 38th *BB* Bird Photograph of the Year competition is free to enter and seeks to recognise the best and/or the most scientifically interesting photographs of Western Palearctic birds taken during 2013. The competition's main sponsor in 2014 will again be Anglian Water, to whom we remain extremely grateful. For full details of the rules and how to submit entries, go to www.britishbirds.co.uk/about/bird-photograph-of-the-year

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The occurrence and arrival routes of North American landbirds in Britain

Tom Bond

Abstract Accepted records of North American landbirds in Britain from 1958 to 2012 were analysed to discover seasonal, temporal and regional occurrence trends, and then to discuss possible arrival routes. Records in Britain are compared with those from the Azores and Iceland. The only species to occur in the top five most frequent American landbirds in each of these three areas was Red-eyed Vireo. Over 80% of all British records during the review period were in autumn, the peak arrival centred on 9th–10th October. In southwest England, 95% of arrivals were in autumn; in contrast, in the Northern Isles, spring accounted for 31% of all American landbird records. A lack of vigorous transatlantic weather systems in spring suggests that a higher proportion of records at this season are ship-assisted birds, especially given the numbers of North American sparrows involved.

Although vagrant birds arrive in Britain from all points of the compass, those from North America are perhaps the most deserving of admiration, having crossed vast expanses of the North Atlantic – the distance from New England to the Isles of Scilly is more than 5,000 km. The appearance of North American landbirds in Britain has become an annual expectation in recent decades, especially in autumn. From the 1960s onwards, October on Scilly became the focal point of the calendar for many rarity hunters, with American landbirds arguably the main attraction. For example, in October 1985 there were no fewer than 14 records of seven species of American landbird on Scilly (Rogers *et al.* 1986, 1989). In recent years, however, there has been a growing perception of dwindling numbers of American birds (and visiting birders) on Scilly in October.

Until the early 1950s, few ornithologists believed it was possible for landbirds to fly across the Atlantic unaided, and it was gener-

ally accepted that those which did occur were escaped cagebirds (BOU 1956). One of the first American landbirds generally considered to be a natural vagrant was an American Robin (scientific names of species mentioned in the text are given in table 1) on Lundy, Devon, in October–November 1952. In this case, Atlantic pressure systems prior to the bird's discovery were thought to have been ideal for a wind-assisted passage, which may have been achievable in less than 40 hours, within the physical capability of such a bird (Davis 1953).

More recently, there is compelling evidence that many North American birds in Britain are natural vagrants, rather than ship-assisted or escapes. The most frequently occurring species are generally long-distance migrants, physiologically well adapted for long flights across the sea. The three species with most British records during 1958–2012 – Red-eyed Vireo, Grey-cheeked Thrush and Blackpoll Warbler – migrate directly between

the Gulf Coast of the USA and the Yucatan Peninsula, Mexico (TPWD 2012), and a significant proportion of the population winters in Brazil (Cornell 2012). Blackpoll Warblers are thought to make transoceanic flights in autumn from south-eastern Canada and northeast USA directly to South America (Nisbet *et al.* 1995).

Robbins (1980) found that the four variables which best predicted British records of American landbirds were: (standard deviation of) body weight – a measure of the ability to store fat; migratory distance; abundance on the east coast of North America; and a west-to-east component of their normal migration. Furthermore, many records are from the extremities of Britain (in particular Scilly, the Outer Hebrides and the Northern Isles, rather than around ports, as might be expected for ship-assisted birds), while many records have been linked to particular Atlantic weather systems, as in the autumns of 1975, 1976 and 1987 (Elkins 1979, 1999, 2008). In an analysis of records from 1967 to 1976, it was considered that as many as three-quarters of arrivals were linked to the passage of fast-moving warm sectors that had crossed the Atlantic within 2–3 days (Elkins 1979). Radar studies have shown passerine migrants moving between northeastern USA and the Caribbean (McClintock *et al.* 1978), while non-stop flights of 3,000–4,000 km (only a little shorter than the distance between North America and Britain) are a regular feature of autumn migration for many species (Richardson 1976). The situation in spring is somewhat different, however: not only is there little passage of migrants over the western Atlantic, but vigorous Atlantic depressions are less frequent.

This paper analyses the seasonal, temporal and spatial arrival patterns of North American landbirds reaching Britain, and discusses



Gary Thoburn

32. Red-eyed Vireo *Vireo olivaceus*, St Mary's, Scilly, October 2008. This species was the most frequent North American landbird recorded in Britain during 1958–2012 (and also features in the top five for both Iceland and the Azores). In Britain, however, it is very much a southwestern speciality – the first record for Shetland was not until 2012, and there have been just two Northern Isles records since the formation of BBRC (although the long-anticipated first for Fair Isle appeared in October 2013).

their likely arrival routes, using accepted British records during the period 1958–2012 (available from BBRC annual reports and their website, www.bbrc.org.uk). The analysis was limited to passerines and near-passerines (table 1), since the larger migratory species are capable of making longer continuous flights, have different migration strategies, and are able to take advantage of high-altitude winds. For example, arrivals of American landbirds in Britain often do not correlate with those of American waders (Elkins 2008). Dates used in figs. 1 and 3–4 represent discovery dates for the records in question. Data from Iceland (Birding Iceland 2011) and the Azores (Birding Azores 2012) were used for comparison with sightings in Britain.

The species involved

During 1958–2012, there were 734 accepted British records of North American landbirds of 59 species, giving an average of nearly 14 records a year (table 1). The five most frequent species were Red-eyed Vireo (125 records), Grey-cheeked Thrush (52), Blackpoll Warbler (45), White-throated Sparrow (42) and Yellow-billed Cuckoo (41). In terms of family groups, the top five were the Parulid wood-warblers (137 records of 18

Table 1. Summary of occurrences of North American landbirds in Britain, 1958–2012

| | total | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | vagrancy potential |
|---|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|
| Mourning Dove <i>Zenaida macroura</i> | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | High |
| Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 7 | 0 | 0 | High |
| Yellow-billed Cuckoo <i>Coccyzus americanus</i> | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 28 | 5 | 2 | High |
| Common Nighthawk <i>Chordeiles minor</i> | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 14 | 0 | 0 | High |
| Chimney Swift <i>Chaetura pelagica</i> | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | 8 | 0 | 0 | High |
| Belted Kingfisher <i>Megasceryle alcyon</i> | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | High |
| Yellow-bellied Sapsucker <i>Sphyrapicus varius</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | High |
| Eastern Phoebe <i>Sayornis phoebe</i> | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Medium |
| Yellow-throated Vireo <i>Vireo flavifrons</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | High |
| Philadelphia Vireo <i>Vireo philadelphicus</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | High |
| Red-eyed Vireo <i>Vireo olivaceus</i> | 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 91 | 3 | 0 | High |
| Tree Swallow <i>Tachycineta bicolor</i> | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | High |
| Purple Martin <i>Progne subis</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | High |
| Cliff Swallow <i>Petrochelidon pyrrhonota</i> | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 1 | High |
| Cedar Waxwing <i>Bombycilla cedrorum</i> | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | High |
| Red-breasted Nuthatch <i>Sitta canadensis</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | Low |
| Northern Mockingbird <i>Mimus polyglottos</i> | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | Low |
| Brown Thrasher <i>Toxostoma rufum</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | Low |
| Grey Catbird <i>Dumetella carolinensis</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | High |
| Wood Thrush <i>Hylocichla ustelina</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | High |
| Hermit Thrush <i>Catharus guttatus</i> | 8 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 6 | 0 | 0 | Medium |
| Swainson's Thrush <i>Catharus ustulatus</i> | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 24 | 0 | 0 | High |
| Grey-cheeked Thrush <i>Catharus minimus</i> | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 45 | 3 | 0 | High |
| Veery <i>Catharus fuscescens</i> | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 6 | 1 | 0 | High |
| Varied Thrush <i>Ixoreus naevius</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | Low |
| American Robin <i>Turdus migratorius</i> | 24 | 5 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 5 | 6 | 4 | Medium |
| Buff-bellied Pipit <i>Anthus rubescens</i> | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 10 | 1 | 3 | High |
| Evening Grosbeak <i>Hesperiphona vespertina</i> | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Low |
| Scarlet Tanager <i>Piranga olivacea</i> | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | High |
| Rose-breasted Grosbeak <i>Pheucticus ludovicianus</i> | 26 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 21 | 1 | 2 | High |
| Indigo Bunting <i>Passerina cyanea</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | High |
| Eastern Towhee <i>Pipilo erythrophthalmus</i> | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | Low |

| | total | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | vagrancy potential |
|--|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|
| Lark Sparrow <i>Chondestes grammacus</i> | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | Low |
| Savannah Sparrow <i>Passerculus sandwichensis</i> | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | Medium |
| Song Sparrow <i>Melospiza melodia</i> | 7 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | Medium |
| White-crowned Sparrow <i>Zonotrichia leucophrys</i> | 5 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | Medium |
| White-throated Sparrow <i>Zonotrichia albicollis</i> | 42 | 0 | 0 | 0 | 1 | 22 | 9 | 1 | 0 | 1 | 3 | 3 | 2 | Medium |
| Dark-eyed Junco <i>Junco hyemalis</i> | 38 | 2 | 1 | 0 | 7 | 18 | 2 | 2 | 0 | 0 | 0 | 3 | 3 | Medium |
| Bobolink <i>Dolichonyx oryzivorus</i> | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 17 | 1 | 0 | High |
| Brown-headed Cowbird <i>Molothrus ater</i> | 5 | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | Medium |
| Baltimore Oriole <i>Icterus galbula</i> | 23 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 6 | 10 | 0 | 3 | High |
| Ovenbird <i>Seiurus aurocapilla</i> | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | High |
| Northern Waterthrush <i>Parkesia noveboracensis</i> | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 0 | 0 | High |
| Golden-winged Warbler <i>Vermivora chrysoptera</i> | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | High |
| Black-and-white Warbler <i>Mniotilta varia</i> | 13 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 4 | 1 | 1 | High |
| Tennessee Warbler <i>Oreothlypis peregrina</i> | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | High |
| Common Yellowthroat <i>Geothlypis trichas</i> | 9 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 4 | 0 | 0 | High |
| Hooded Warbler <i>Setophaga citrina</i> | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | High |
| American Redstart <i>Setophaga ruticilla</i> | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | High |
| Cape May Warbler <i>Setophaga tigrina</i> | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | High |
| Northern Parula <i>Setophaga americana</i> | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 10 | 2 | 0 | Medium |
| Magnolia Warbler <i>Setophaga magnolia</i> | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | High |
| Bay-breasted Warbler <i>Setophaga castanea</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | High |
| Blackburnian Warbler <i>Setophaga fusca</i> | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | High |
| Yellow Warbler <i>Setophaga petechia</i> | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | High |
| Chestnut-sided Warbler <i>Setophaga pensylvanica</i> | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | High |
| Blackpoll Warbler <i>Setophaga striata</i> | 45 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 5 | 36 | 2 | 1 | High |
| Yellow-rumped Warbler <i>Setophaga coronata</i> | 16 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 11 | 2 | 0 | High |
| Wilson's Warbler <i>Cardellina pusilla</i> | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | High |
| Totals | 734 | 11 | 4 | 3 | 16 | 63 | 20 | 4 | 6 | 146 | 397 | 41 | 23 | |

Notes Table 1 does not include an accepted record of an unidentified *Setophaga*, probably a Blackpoll Warbler, on Scilly in 1981, but this individual has been included in figs. 1, 4 & 7. Note that the *Empidonax* flycatchers seen in Cornwall in 2008 and Norfolk in 2010 are excluded. Definition of vagrancy potential to Britain: High – breeding range encompasses the New England states in the USA (Maine, Massachusetts, New Hampshire, Rhode Island and Vermont), and Nova Scotia and Newfoundland, Canada; southern edge of wintering range extends from Panama southwards (i.e. Panama or South America), or breeds Baffin Island and Greenland; southern edge of wintering range from Mexico southwards (this applies to Buff-bellied Pipit only). Medium – breeding range encompasses New England, Nova Scotia or Newfoundland; southern edge of wintering range to south from Mexico/Costa Rica. Low – other than above. Information on breeding and wintering ranges taken from Cornell Laboratory of Ornithology website www.allaboutbirds.org/guide/search

species), vireos (127 of three species), thrushes (127 of seven species), American sparrows (98 of seven species) and Icterids (60 records of three species: Bobolink, Brown-headed Cowbird and Baltimore Oriole). McLaren *et al.* (2006) found that most transatlantic vagrants were long-distance migrants and tended to be larger-bodied species that were common in late autumn along the eastern seaboard of the USA, and this is borne out by the data. For comparison, the five commonest American landbirds on the Azores up to 2011 were Chimney Swift (132, largely due to an influx of nearly 120 birds in 2005), Yellow-billed Cuckoo (39), Red-eyed Vireo (30), Indigo Bunting (27) and Bobolink (21), while in Iceland the top five species up to 2007 were Red-eyed Vireo (18), Yellow-rumped Warbler (14), Blackpoll Warbler (13), Buff-bellied Pipit (9) and Northern Parula (7). Red-eyed Vireo is thus the only species to occur in the top five in each of the three areas. While the high numbers of American landbirds found on the Azores in 2005 were considered exceptional at the time, subsequent observations by visiting birdwatchers indicate that this is not the case. This highlights the fact that many American vagrants cross the Atlantic at lower latitudes than Britain.

The Red-eyed Vireo shows a particularly well-defined occurrence pattern in Britain. Between 1958 and 2012, all records fell between September and November, the earliest being on Shetland on 12th September

2012 and the latest at Thurso, Highland, on 8th November 1988. The majority, 91 of the 125, were in southwest England (defined here as Scilly, Cornwall, Devon and Dorset), with just two from the Northern Isles and 13 from the remainder of Scotland, eight of which have been in the Outer Hebrides. All Red-eyed Vireo records from Iceland up to 2007 and the Azores up to 2011 were also during September–November. Robbins (1980) considered Red-eyed Vireo to be only the ninth most likely American vagrant species to reach Britain, based on a regression analysis of the four variables he identified (see above), which suggests that these parameters do not fully capture the vagrancy potential of this species. He acknowledged that the west-to-east component of autumn migration is often difficult to quantify, however, while Ralph (1981) classified Red-eyed Vireo as a ‘broad-front migrant’ rather than as a ‘possible western Atlantic migrant’. It seems possible that a proportion of that species’ population takes a (presently unknown) maritime route to their wintering grounds in South America, making them susceptible to being swept eastwards in Atlantic depressions.

Seasonal occurrence

The majority of American landbirds in Britain during the review period were in southwest England (as defined) with 372 records, followed by the remainder of England (129), the Northern Isles (107), the rest of Scotland (73), Wales (39), at sea records (8) and the Isle of Man (7) (note that these regional totals add up to 735 not 734 since the unidentified *Setophaga* on Scilly in 1981 is included). Autumn (defined as August to November inclusive) accounted for 589 records (80%), of which 439 (60%) were of birds discovered between 27th September and 27th October (fig. 1). In

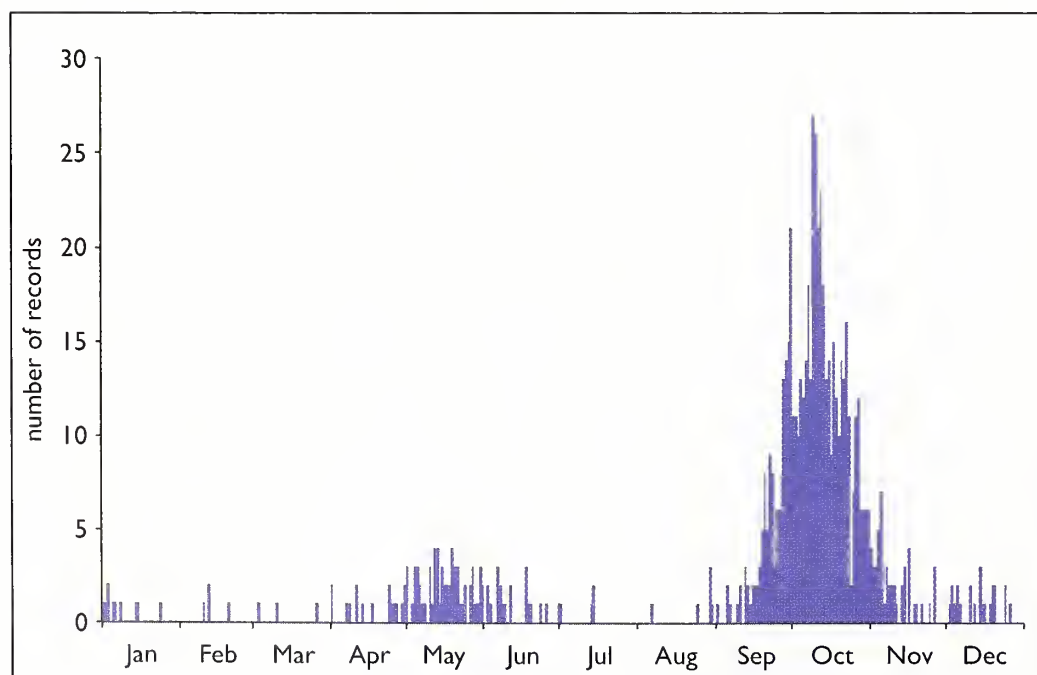


Fig. 1. Discovery dates of North American landbirds in Britain, 1958–2012 (all species treated in this paper).

fact, the probability of finding an American landbird in Britain is highest on the 9th and 10th October, days with 27 and 26 records respectively (fig. 1). This is a similar pattern to that on the Azores, where the period 6th–26th October is considered most productive, with the frequency of records falling away sharply either side of these dates (Alfrey *et al.* 2010). On the Azores, median arrival

dates in autumn were between 13th and 28th October over five autumns, slightly later than the peak arrival period in Britain and consistent with their lower latitude.

The peak arrival period in Britain (mid October) is later than the peak autumn passage period of most migrant landbirds that winter in the Neotropics as they pass along the eastern seaboard of the USA (Cottridge & Vinicombe 1996; Elkins 2008), but it does coincide with peak/near-peak numbers in Florida and the Gulf Coast (Dunn & Garrett 1997). The reasons why arrivals in Britain tend to be later are uncertain. Perhaps more favourable meteorological conditions for transatlantic vagrancy occur in mid October rather than earlier in autumn, although there is little indication in the literature that this is true. A more intriguing possibility is that late migrants are more inclined to wander farther over the Atlantic and consequently are more prone to eastwards displacement. Cottridge & Vinicombe (1996) suggested that transatlantic vagrancy may involve reverse migration; they noted that species whose normal autumn migration took them along the eastern seaboard of the USA would be heading in a direction bound for Britain if they travelled in the opposite direction. Gilroy & Lees (2003) suggested that genetic abnormalities may cause birds to



Richard Stonier

33. First-winter Blackpoll Warbler *Setophaga striata*, St Mary's, Scilly, October 2007. In third place in the list of American landbirds since 1958, for both Britain as a whole and the southwest, this is the most regular of the American wood-warblers, which is the most frequent family group among transatlantic landbirds to occur in Britain.

disperse in all directions, not just 180° to the intended course. Their concept of 'pseudo vagrants' builds upon the earlier work of Veit (1997, 2000), who suggested that, in a North American context, vagrants represent the expanding fringe of a growing population. However, it seems highly unlikely that this applies to the appearance of American landbirds in Europe, as the chance of such vagrants returning to natal areas is surely vanishingly small.

McClaren *et al.* (2006) found a correlation between the species mix of arrivals of unseasonal species and southern vagrants in mid October in Nova Scotia and autumn vagrants to Britain & Ireland. These migrants (in Nova Scotia) were thought to have originated in southeast USA (i.e. they could be regarded as reverse migrants) and the authors suggested that many transatlantic vagrants in autumn are migrating in the 'wrong direction' from southeast USA, before being displaced downwind across the North Atlantic. A particularly large and diverse fall of apparent reverse migrants and vagrant southern birds occurred in southernmost Nova Scotia from 11th October 1998. McClaren *et al.* (2000) surmised that these originated in southeastern USA, some 1,500–2,500 km distant, on 9th October. Note the close similarity between these dates and the peak arrival of



Fig. 2. Great-circle routes between Halifax, Nova Scotia, Canada, and Hugh Town, Scilly (left map), and Lerwick, Shetland (right map) (taken from <http://www.gpsvisualizer.com/calculators>).

American landbirds in Britain (fig. 1), and the inherent possibility that British vagrants might have started their journey as far away as Florida. A departure point in the south-eastern USA is also consistent with the bulk

of British records of American landbirds turning up in southwest England. Radar studies in Nova Scotia have shown that small numbers of birds fly over land in a NNE to easterly direction, opposite to the main

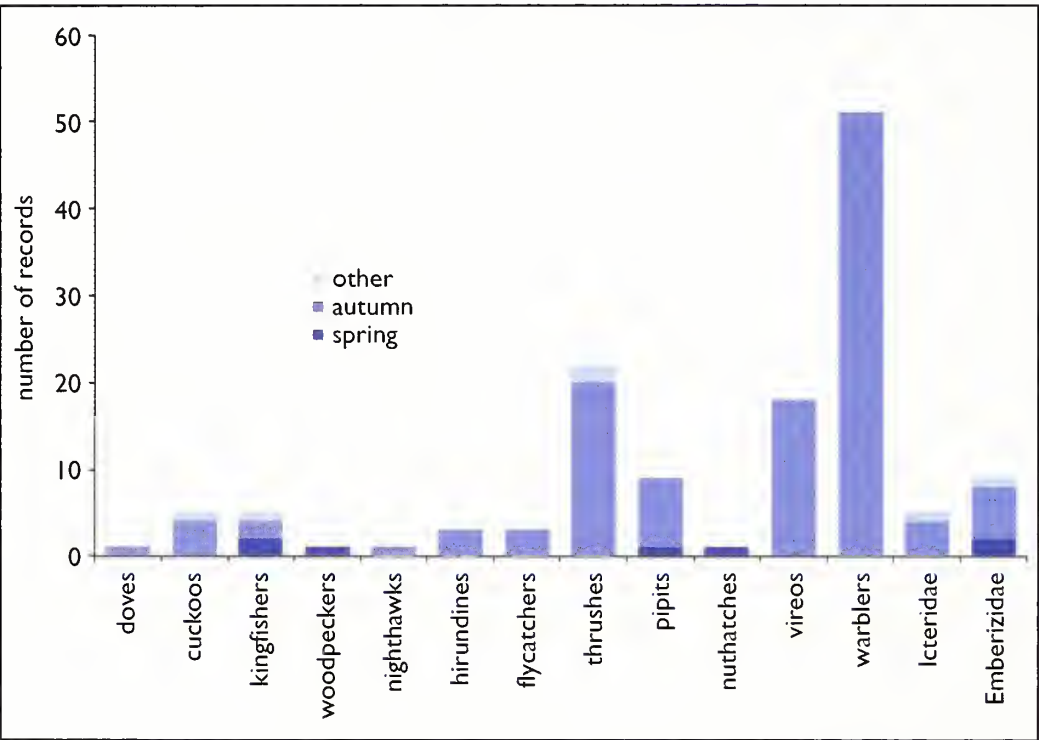


Fig. 3. Spring and autumn occurrence of North American landbirds in Iceland, all accepted records to 2007 (*Birding Iceland* 2011).

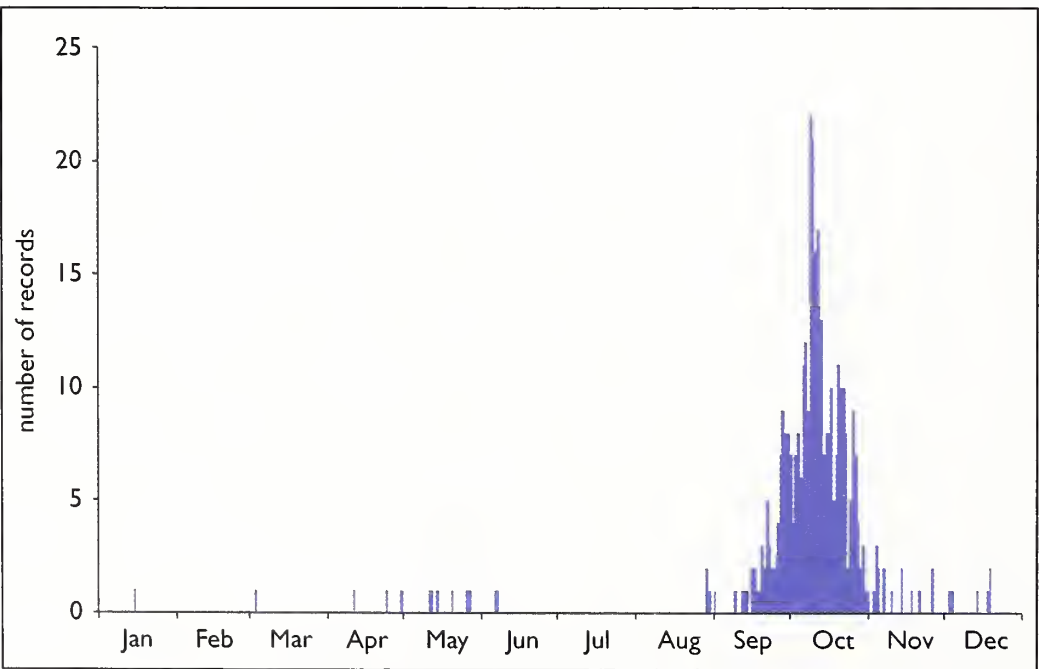


Fig. 4. Discovery dates of North American landbirds in southwest England (Scilly, Cornwall, Devon and Dorset), 1958–2012.

southwesterly migration route and that this occurs intermittently throughout the autumn, while over-water reverse migration from New England to Nova Scotia and from Nova Scotia towards Newfoundland was also evident (Richardson 1982). Conversely, the relatively high numbers of American landbirds seen on the Azores in recent autumns may indicate that vagrants travel over a broad front, rather than in specific (predetermined) directions.

A comparison of the latitudes of various sites on either side of the Atlantic shows Shetland, southern Greenland and Hudson Bay all at c. 60°N; and Scilly, Cornwall and Newfoundland all at c. 50°N, which is farther north than Nova Scotia (at c. 45°N). New York City sits at 41°N, a latitude south of Madrid. Thus, many

vagrant North American landbirds have a northerly element to their transatlantic journey (fig. 2). This could be involuntary, as they are swept along in fast-moving depressions, but it is also consistent with the reverse migration theory, which also suggests that some would be expected to reach Iceland. Indeed, the vast majority of American landbirds in Iceland have occurred in autumn (fig. 3), especially October. For example, only one of the 61 records of the five most frequently occurring vagrants in Iceland up to 2007 did not occur in autumn – an April Buff-bellied Pipit. The distances travelled by birds following great-circle routes across the Atlantic (fig. 2) are comparable with those taken by the same species migrating to South America; from Halifax, Nova Scotia, the distances to Shetland, Scilly, southern Iceland and the Azores are around 4,400, 4,200, 3,300 and 3,100 km respectively. The distances to Scilly and Shetland are actually rather similar, although the route to Shetland passes at

much higher latitudes (fig. 2).

In summary, there is suggestive circumstantial evidence that American vagrants to Britain are reverse migrants, which might explain why their arrival in Britain generally occurs after peak passage along the east coast of the USA. Progress in the miniaturisation of satellite-tracking (and other) technologies may soon lead to some hard evidence (e.g. see Thorup *et al.* 2012).

Regional differences

The trend for the majority of records to be in autumn (August–November) was most pronounced in southwest England (fig. 4). Some 353 of 372 records (95%) were in autumn, with 292 (78%) between 27th September and 27th October. Mid October was the peak time, with 22 and 21 landbirds discovered on 9th and 10th October respectively (fig. 4). The five most frequent species were Red-eyed Vireo (91 records), Grey-cheeked Thrush (35), Blackpoll Warbler (29), Bobolink (20) and



Hugh Harrop

34. White-throated Sparrow *Zonotrichia albicollis*, Sumburgh, Shetland, May 2006. This was the most frequent transatlantic landbird in the Northern Isles during 1958–2012, where almost a third of the records during that period were in spring. The prevailing view is that many of the American sparrows that turn up in the north of Britain and along the east coast in spring are ship-assisted vagrants.

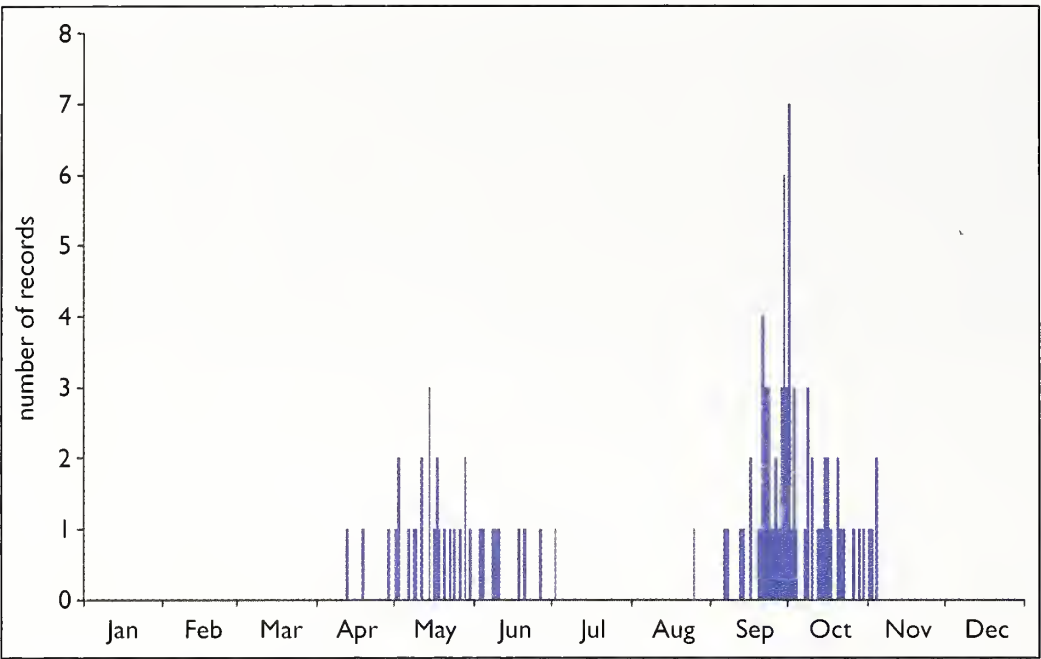


Fig. 5. Discovery dates of North American landbirds in the Northern Isles, 1958–2012.

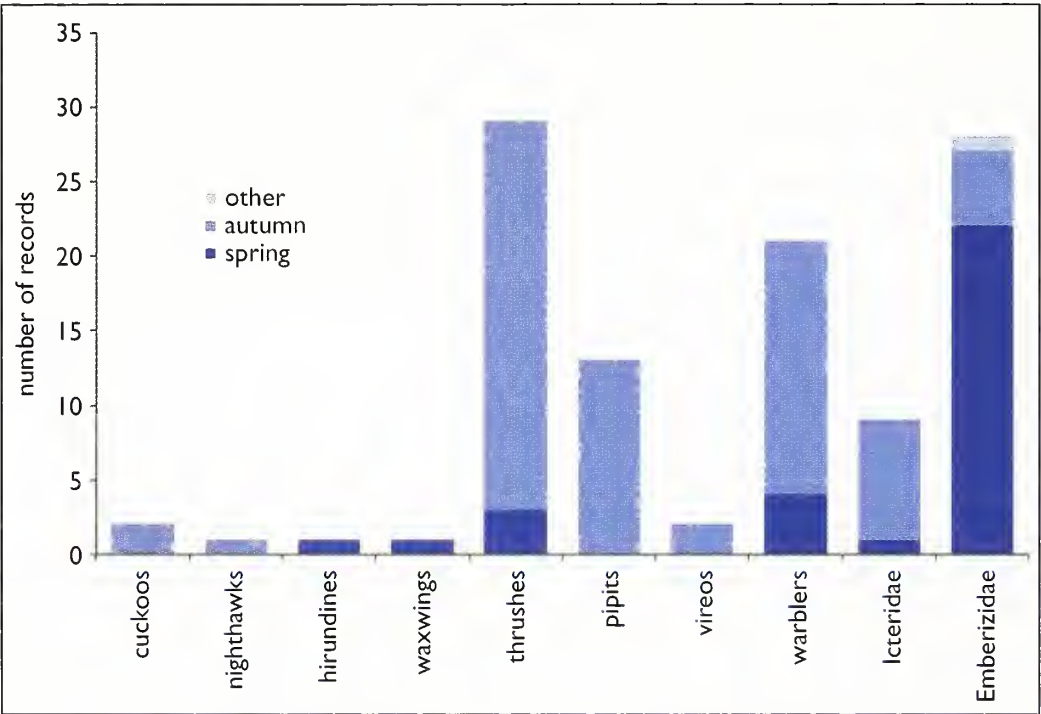


Fig. 6. Spring (April–June) and autumn (August–November) occurrences of North American landbirds in the Northern Isles, 1958–2012.

Yellow-billed Cuckoo (19). Only 11 American landbirds occurred in the southwest in spring (April–June), of which seven were sparrows (Dark-eyed Junco, White-throated and Savannah Sparrows and Eastern Towhee). The only other sparrow records were two Dark-eyed Juncos in November and one in December.

In the Northern Isles, the majority of records were also in autumn (68%) but a much higher proportion occurred in spring (31%; fig. 5). The majority of spring records were sparrows with 22 records of five species (fig. 6). Other species in spring included two Hermit Thrushes and an American Robin, and four wood-warblers (two Common Yellowthroats and two Yellow-rumped

Warblers). In contrast, there was only one spring record from these groups in the southwest: a Veery on Lundy in May 1997 (table 1). In autumn there were 26 records of five thrush species, and 17 records of nine wood-warblers, but just four autumn records of sparrows. Overall, the most frequent species were White-throated Sparrow, Buff-bellied Pipit, Swainson’s Thrush, Grey-cheeked Thrush and Bobolink, with 17, 13, 12, 7 and 7 records respectively.

Autumn arrivals in the Northern Isles were noticeably earlier than in southwest England (cf. figs. 4 & 5), 1st October being the peak arrival date, with seven records. However, numbers recorded in the Northern Isles are insufficient to account for the secondary autumn peak arrival in late September, notice-

able in fig. 1. This is largely caused by 21 birds that arrived on 30th September, spread across many years within the review period. These occurred across a wide geographical spread with eight in the southwest (fig. 4). The reasons for this spike are unclear and it may simply be a quirk related to Atlantic meteorological conditions in the review period.

Changes in occurrence patterns

There is a growing consensus that, in recent years, the numbers of American landbirds appearing on Scilly, and more generally in southwest England, are lower than in the 1980s. This is supported by an analysis of records from recent decades (fig. 7). In the



Ian Butler

35. First-winter American Robin *Turdus migratorius*, Bingley, Yorkshire, January 2007. The American Robin that turned up on Lundy, Devon, in October 1952 was one of the first American landbirds in Britain that was widely considered to be a natural vagrant.

periods 1958–69, 1970–79 and 1980–89 the total number of American landbirds found in southwest England rose from 32 to 44 to 132 and then declined to 79 and 65 in 1990–99 and 2000–09. It has been suggested that North Atlantic depressions have been on a more northerly track in recent decades, perhaps related to climate change (Moss 1998). The number of records in the Northern Isles in the past three decades were 15, 17 and 32 (1980–89, 1990–99, 2000–09 respectively), with a similar pattern in the rest of Scotland (fig. 7).

When this comparison is extended to the years 2010–12, the Northern Isles leads the way, with 22 records, followed by southwest England with 20. This is the only period in fig. 7 in which the latter region did not have the

highest number of American landbirds. An important factor in this shift relates to records of Buff-bellied Pipit, a species which breeds on Greenland (table 1) and which was recorded ten times during 2010–12 in the Northern Isles. It will be fascinating to see what trends emerge in the coming years, but perhaps there is still insufficient evidence to

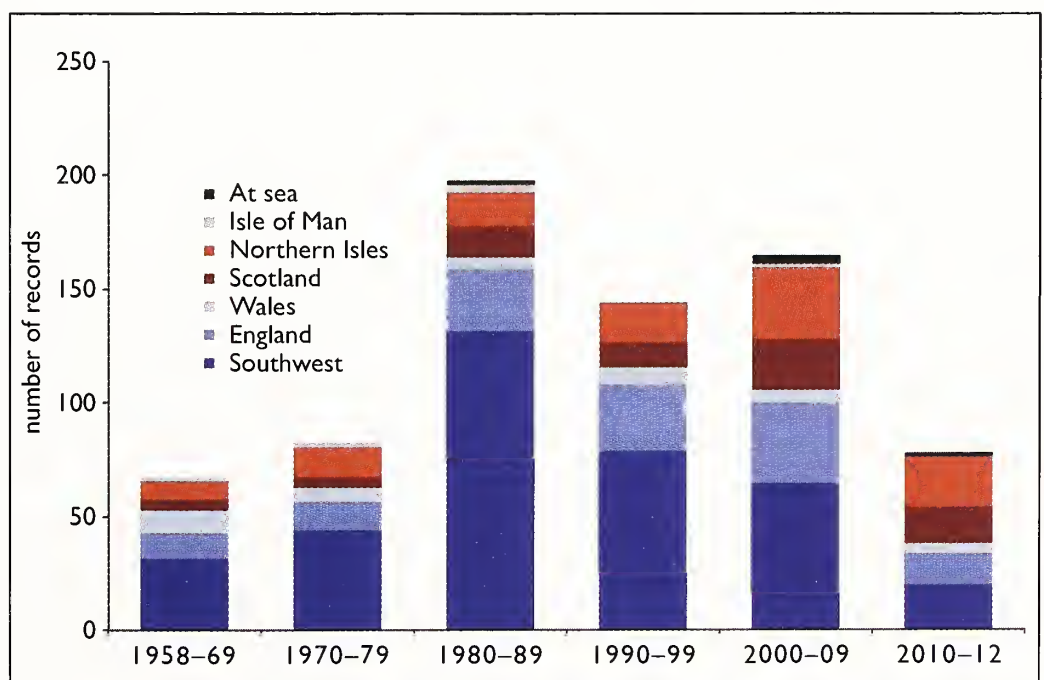


Fig. 7. The geographical spread of North American landbirds in Britain by decade (1958 to 2012), showing records from southwest England, the remainder of England, Wales, the Northern Isles, the remainder of Scotland, the Isle of Man and offshore sectors.

say for certain that the autumn occurrence of American landbirds is shifting northwards (Elkins 2008), while a convincing link to changing depression tracks has yet to be established. Another confounding factor is observer effort, with a marked rise in numbers of birdwatchers visiting the Outer Hebrides and Northern Isles in autumn likely to have contributed to the increased numbers of vagrants discovered. For example, on Barra in the Outer Hebrides, there were no records of any American landbirds between 1958 and 2003, followed by four in 2003–10, all found by a group of pioneering birders visiting in October. Similarly, reduced numbers of birders visiting Scilly in October may have contributed to fewer records of American vagrants in recent years.

Despite recent trends, in terms of number of records southwest England remained the best place to see American landbirds in each full decade of the study period (fig. 7). Based

on the evidence available, it might be more accurate to say that southwest England enjoyed an unusually productive decade for American landbirds in the 1980s, rather than that arrival routes are shifting northwards (fig. 7).

Occurrences of North American landbirds on ships in the North Atlantic

Durand (1963, 1972) systematically recorded North American landbirds on ships in the North Atlantic between 1961 and 1965 while making around 100 crossings, 50 in each direction, between New York and Southampton (some of the 'Cunarders' he travelled on also stopped at Cobh, Co. Cork, or the French ports of Cherbourg and Le Havre). In this period, over 260 American landbirds of 58 taxa were recorded. It was considered that on nearly a third of the voyages landbirds (predominantly from

North America, but also some of European origin) were carried for part of the way. On nine voyages, six or more landbirds were discovered. On two voyages, major falls were recorded, including 130 American landbirds of 34 species during an eastbound crossing on 7th–10th October 1962, some of which remained on board until the ship docked at Southampton on 14th October (Durand 1963). American landbirds were first recorded at varying distances, from just a few kilometres offshore from New York up to more than 5,000 km from New York, and stayed on board for periods varying from minutes to the entire crossing.

Some 105 (40%) of the birds recorded were North American sparrows, including Savannah (and the distinctive 'Ipswich Sparrow' *P. s. princeps*, recorded once in Britain, at Portland Bill, Dorset, in April 1982), White-crowned, White-throated and Song Sparrows, and Dark-eyed Junco. In contrast to British



Steve Young/Birdwatch

36. Yellow-billed Cuckoo *Coccyzus americanus*, Mainland, Orkney, September 2009. Fifth place in the list of British records of American landbirds during 1958–2012 is Yellow-billed Cuckoo. This may seem surprising, given that this has not been an easy species for birders to catch up with in recent years. To some extent, though, this is exacerbated by the fact that the species is often dead or dying when discovered – that has been the case with three of the six recorded since 2000.

records of this group, the overwhelming majority (98%) of his sparrow records were in autumn (fig. 8). This is more comparable with the occurrence pattern in Iceland, where there were just nine records of American sparrows up to 2007, of which six were in autumn (fig. 3).

The trend for American sparrows to occur primarily in spring in Britain does not correlate well with data from Iceland or ships in the Atlantic. There is a common consensus that a significant proportion of British records of White-throated Sparrow relate to ship-assisted birds (Hudson *et al.* 2009), and that the same most probably applies to other American sparrows. In contrast to many Palearctic migrants, American sparrows often

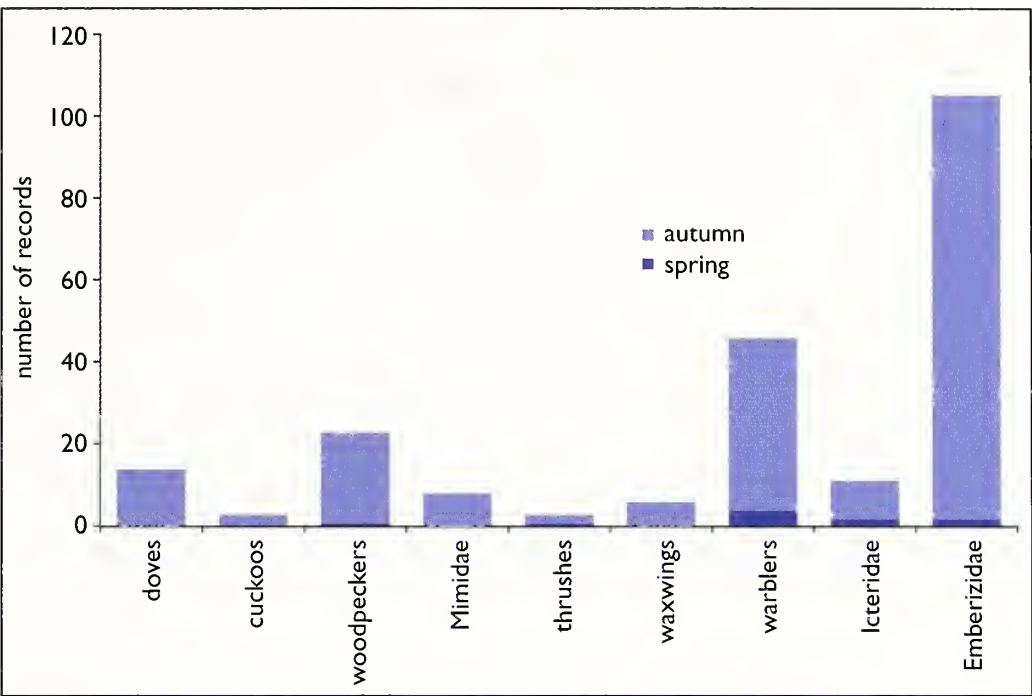


Fig. 8. Spring (April–June) and autumn (August–November) occurrences of North American landbirds on ships in the North Atlantic, 1961–65 (Durand 1972).

deposit larger reserves of fat during spring than autumn, allowing greater distances between stopovers, perhaps linked to spring migration taking place over shorter periods and with lower food availability (Berthold 2001). Nonetheless, American sparrows are not physiologically adapted for long flights



Tom Tams

37. Grey-cheeked Thrush *Catharus minimus*, St Agnes, Scilly, October 2008. The second most common American landbird in Britain during 1958–2012, with 52 records. Unlike its close relative, Swainson’s Thrush *C. ustulatus* (31 records during the same period), Grey-cheeked Thrush has occurred mainly in the southwest.

and there remains considerable doubt about their capability to reach Europe without ship assistance. Perhaps the most satisfactory explanation is that most are birds that overshoot the eastern seaboard of North America and land some way offshore on ships bound for northern Europe. This might also explain why a higher proportion turn up in the Northern Isles rather than Iceland or southern England. It is also worth noting that Durand (1972) travelled between New York and Southampton, at latitudes too far south to capture birds overshooting Nova Scotia or Newfoundland.

Obvious examples of assisted passage into European waters recorded by Durand included a Baltimore Oriole in October 1962, which arrived on board ship 3,000 km from New York and fed on lime and toast on the open decks for several days before leaving the ship within an hour or two of Ireland, presumably to make an unrecorded landfall. In another example, a White-throated Sparrow carried into Southampton on 2nd May 1961 was thought to be the same individual subsequently sighted nearby at Needs Oar Point, Hampshire, later that month. Even

insectivorous birds such as wood-warblers were found to be capable of surviving on liners. On 12th October 1961, upon arriving on board ship in Southampton, Durand found a Blackpoll Warbler which had survived the previous eastbound crossing through being fed on grapes. It remained on the RMS *Queen Elizabeth* in Southampton for the westbound voyage but died about halfway back to New York. Northern Parula was another wood-warbler that survived a transatlantic crossing on board ship.

The list of species *not* recorded by Durand is also noteworthy. Striking omissions include Red-eyed Vireo, Swainson's Thrush, Grey-cheeked Thrush and Common Nighthawk, all among the more frequently occurring American landbirds in Britain (table 1).

Arrival routes of North American landbirds in Britain

The BBRC data show that 80% of American landbirds in Britain turn up in autumn, and the evidence suggests that these are natural vagrants: the most frequently recorded species are long-distance migrants and often



Hugh Harrop

38. Swainson's Thrush *Catharus ustulatus*, Fetlar, Shetland, September 2007. In the Northern Isles, this species is actually more frequent than Grey-cheeked Thrush, and appears at no. 3 on the list of American landbirds.

arrivals can be linked with fast-moving Atlantic depressions. However, autumn is also the peak time for migrant birds to encounter ships in the Atlantic, and those same weather systems are also well suited to depositing large numbers of birds on ships. So an unknown proportion of that 80% are presumably ship-assisted, at least for part of the journey. For the remaining 20% of records, most of them in spring (fig. 1), the picture is more complex.

There are perhaps three categories of American landbirds in terms of British records: (1) long-distance migrants with high natural vagrancy potential (though an unknown proportion will also be ship-assisted); (2) medium-distance migrants, physiologically less well adapted to long continuous flights, so a higher proportion are likely to be ship-assisted; and (3) short-distance migrants or sedentary species with low vagrancy potential, where most or all records are likely to be of ship-assisted birds (table 1). A simple classification based upon the distance between breeding and wintering ranges has been used in table 1, with birds of high vagrancy potential breeding in (for example) New England, Nova Scotia or Newfoundland and wintering south to Panama and South America.

Ship-assisted birds might be thought most likely to occur close to ports with plenty of transatlantic shipping, yet British records of American landbirds close to ports are actually relatively few in number. Notable examples include Blackpoll Warbler (June 2000), White-crowned Sparrow (October 1995) and Song Sparrow (October 1994) at Seaforth,



James Kennerley

39. Buff-bellied Pipit *Anthus rubescens*, Queen Mother Reservoir, Berkshire, December 2012. The biggest 'mover' in the Nearctic passerine charts is undoubtedly Buff-bellied Pipit, with no fewer than 20 records in 2010–12, including ten in the Northern Isles. Greater awareness of the identification criteria of this species, which also breeds in Greenland, has no doubt been partially responsible, but this seems unlikely to be the whole story. As well as a slew of Northern Isles records, the species is a realistic winter target at inland sites, as this bird in Berkshire illustrates perfectly.

Merseyside; and Yellow-billed Cuckoo (October 1989) and Lark Sparrow (June–July 1981) at Landguard, Suffolk. In general, records along the English south coast are thought more likely to be ship-assisted than those from west Cornwall and Scilly. This is an oversimplification, however, since stowaways can jump ship well before they enter port; the first White-throated Sparrow for Scilly, in May 2010, bore traces of green paint, suggesting that it had spent time on a ship (Gordon 2010).

The likelihood of the arrival route affects how vagrants are treated by national recording bodies. Since the days of the American Robin on Lundy in 1952, changing attitudes towards occurrence of American landbirds have also been reflected by the BOU. In the BOURC's first report (BOU 1956) the following points were made: 'Assisted passage should not necessarily deny to a bird the right to admittance to the British List. Ships are an ever-present feature of the North Atlantic and should not be regarded as more unnatural than any other man-made object, nor indeed do they in effect differ from flotsam, on which a bird might rest. There is no possibility of knowing whether or not any bird that reaches Britain

in a free state has settled on a ship or, if it did so, the length of time it remained onboard. To deny American passerines a place on the British List on the grounds that they could not have made the journey unaided in this way is to imply that all American birds already included in the list have had an unaided passage. With this implication the Sub-committee is not prepared to agree. Whether or not the passage was unaided should be regarded as irrelevant.' The following caveat was added: 'The status of a bird, whether migratory or sedentary, must have weight in reaching a decision.'

This guidance has been reworded in the past decade: 'Ship assistance is not necessarily a bar to inclusion on the British List, provided the bird was not confined, sheltered or provisioned during its journey. Finally, we need to consider if the species might be capable of reaching Britain without ship assistance. BOURC's policy on ship assistance was never meant to allow non-migratory species, or port to port transportees to be admitted to the British List. The species might be expected to arrive in Britain

naturally and without ship assistance given favourable circumstances (i.e. the species is migratory and its migratory route matches that of other species believed to occur naturally)' (BOU 2005).

In other words, only species capable of natural vagrancy should be accepted, even if some individuals may have been ship-assisted. This was followed up in 2006, noting that, with the new guidelines, four species on Category A were to be reviewed to ensure consistency of treatment: Northern Mockingbird, Brown Thrasher, Eastern Towhee and Lark Sparrow. All four were classified as being of low vagrancy potential based on their breeding and wintering ranges (table 1), as are another three species: Red-breasted Nuthatch, Varied Thrush and Evening Grosbeak.

Of those seven species, four – Brown Thrasher, Northern Mockingbird, Eastern Towhee and Lark Sparrow – are partial migrants, especially northern populations. Movements of the Northern Mockingbird are not well understood, though it is resident over most of its range (Cornell 2012) and



Rebecca Nason

40. First-winter Cape May Warbler *Setophaga tigrina*, Unst, Shetland, October 2013. Although not part of the dataset considered in this paper (which looks only at accepted records from 1958 to 2012), this second for the Western Palearctic (following one in Clyde in June 1977) added to the growing belief that rarity hunters in Britain should head north rather than south in autumn. So far, however, the data suggest that it may be premature to write off the southwest.

ringing recoveries have revealed movements of 800 km (Derrickson & Breitwisch 1992). Durand (1972) recorded three Brown Thrashers together on a ship 350 km from New York, with another sighting of a probable 1,500 km out. These sightings perhaps hint at the route taken by the sole British record, one at Durlston Head, Dorset, from November 1966 to February 1967. Meanwhile the Lark Sparrow winters at

least to southern Mexico, though its breeding range does not extend north of the Great Lakes (Cornell 2012). As with Brown Thrasher, the location of the two British records – Waxham, Norfolk, and Landguard, Suffolk – are perhaps indicative of ship assistance.

Evening Grosbeak and Red-breasted Nuthatch are irruptive migrants, while Varied Thrush could be classified as of medium vagrancy potential based solely on the distance between breeding (north to Alaska) and wintering (south to northern Baja California, Mexico) areas. However, its west-coast distribution was the reason for its classification as of low vagrancy potential (to Britain) and clearly marks the record from Nanquidno, Cornwall, in November 1982 as truly extraordinary – whatever the route taken. Single records of Varied Thrush and Red-breasted Nuthatch from Iceland arguably support natural vagrancy. Furthermore, since 1999 there have been 22 records of Red-breasted Nuthatch and four of Varied Thrush from Gambell, St Lawrence Island, Alaska, which is only 70 km from northeast Russia (Lehman 2012). However, there are no records of the other five species from Iceland or of any of the seven species from the Azores.

Two species recorded in Britain, but not yet accepted onto Category A by the BOU – House Finch *Carpodacus mexicanus* and Yellow-headed Blackbird *Xanthocephalus xanthocephalus* – would also be classified as having low vagrancy potential based on the system used in table 1. Both species were



John Carter

41. First-winter male Dark-eyed Junco *Junco hyemalis*, Beaulieu, Hampshire, January 2012. This species was the sixth most common American landbird recorded in Britain between 1958 and 2012.

highlighted by Veit (1997, 2000) as examples of species where vagrancy may be linked to expanding populations, while there is also a single record of Yellow-headed Blackbird from Iceland and its wintering range extends south to central Mexico. Most distribution maps show House Finch as a resident species (Cornell 2012), which underlies its classification as being of low vagrancy potential, yet the eastern population (introduced to New York in around 1940) has rapidly evolved migratory behaviour, with ringing recoveries demonstrating movements up to 1,295 km (Able & Belthoff 1998). Movements of these two species are actually similar to those of other species already accepted onto the British List.

Another ten species are classified as having medium vagrancy potential (table 1) and the ability of some of these to reach Britain unaided by humans could be questioned, particularly the sparrows (see above). Overall, while the majority of American landbirds on the British List are long-distance migrants likely to be able to cope with the rigours of a continuous Atlantic flight, there are perhaps 12 species on the British List – the seven species with low vagrancy potential, plus five sparrows with medium vagrancy potential – where natural vagrancy is surely doubtful.

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A *Fregetta* storm-petrel at Severn Beach, Avon – new to Britain

Allan Gaunt, Richard Greer and John Martin

Abstract A *Fregetta* storm-petrel was seen off Severn Beach, Avon, on 25th November 2009. This represents the first European record of this genus of storm-petrel, which is currently treated as comprising two species, White-bellied *F. grallaria* and Black-bellied *F. tropica* Storm-petrel. Both are from the southern oceans, including the South Atlantic. Identification to species level is complicated by variation and taxonomic uncertainty.

Circumstances

Wednesday, 25th November 2009 was the third consecutive day of strong southwesterly winds in the Bristol Channel. Two deep Atlantic depressions with their associated frontal systems had created a strong southwesterly airstream that originated in the mid Atlantic, beyond the Azores (the weather charts in fig. 1 show the situation in the North Atlantic for 24th and 25th November). These conditions had brought a number of seabirds into the Severn Estuary, including up to six Leach's Storm-petrels *Oceanodroma leucorhoa* and four Great Skuas *Stercorarius skua* on 23rd–24th November.

At Severn Beach, the overnight gale had eased to some extent by dawn, but the wind remained southwest F6–7. John Martin (JPM) arrived at the 'Burger Bar Ramp' on the seawall at 07.55 hrs for his third consecu-

tive early-morning seawatch. This vantage point faces north towards the east end of the Second Severn Crossing (c. 750 m away) and is a sheltered spot in a southwesterly wind. The ramp is close to the mean high water mark and that morning was just a few metres above the level of the estuary. He was joined by Allan Gaunt (AG) and Angus Dickie (AD) from Wolverhampton at about 08.00 and shortly afterwards AG located the first Leach's Storm-petrel of the day, moving slowly downstream. Soon after that, Richard Greer (RG) and Rod Greer (RLG) from Birmingham joined the group. All observers hoped to see more storm-driven seabirds.

At about 08.25, AD and RLG independently saw a mystery bird flying away from us towards the bridge and alerted AG and RG. After a short search with his telescope, AG relocated the bird, heading back downstream.

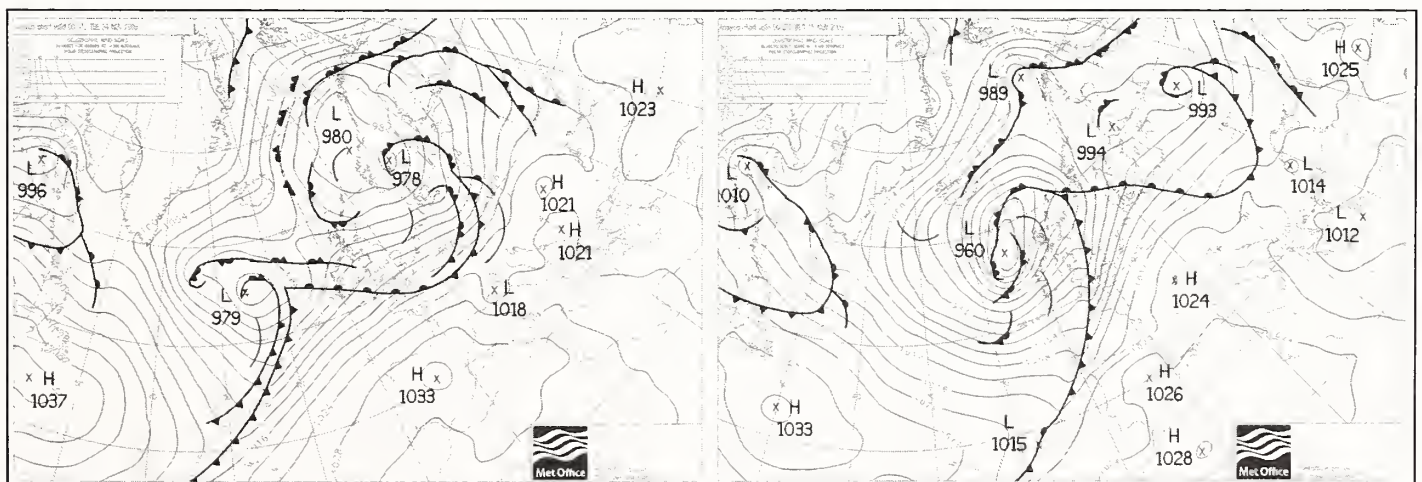


Fig. 1. North Atlantic pressure charts for 00.00 hrs on 24th and 25th November 2009.

He called out to alert the others to ‘a petrel with white underparts’. JPM did not hear the detail of his comments but picked up enough to look in the same general direction and also located the bird in question. All five observers were soon following the bird, watching in amazement as a storm-petrel with a big white belly and white patches on the underwings passed down channel in front of us, roughly parallel with the shore and perhaps some 500 m away at its closest point. Since the bird was heading into the wind it progressed quite slowly so we had good views for a few minutes, after which the petrel began to head away towards the southwest, eventually disappearing from view beyond the marker buoys in the deep-water channel some 3 km or more distant.

AG and JPM called out features and discussed the bird’s appearance and possible identity while it was in view. AG suggested, with some disbelief, that it could be a White-bellied *Fregetta grallaria* or Black-bellied Storm-petrel *F. tropica*, a few of which he had seen before in the South Atlantic, although the possibility that a petrel from the southern hemisphere was flying down the Severn Estuary was difficult to take in. He remembered that both *Fregetta* species can show a white belly, and also the importance of looking carefully for evidence of a black belly stripe. Nonetheless, other storm-petrel species had to be eliminated, and while the group’s collective experience was able to rule out a number of species (including a partial albino of a regular British species – dismissed because of the bird’s distinctive plumage pattern and flight), no-one had a suitable field guide on site. As the bird became more distant, JPM made a few phone calls, while keeping it in view in his scope. Discussion with Mashuq Ahmed and Brian Small helped to narrow down the options to one of the two *Fregetta* species more conclusively, and news was released to that effect. A little later Gary Thoburn arrived with a copy of Onley & Scofield’s *Albatrosses, Petrels and Shearwaters of the World*, which enabled us to rule out all other storm-petrels. As fanciful as it appeared, we had just seen a *Fregetta* storm-petrel in the Severn Estuary!

It seemed likely that the bird might reappear, since seabirds often remain in the

estuary during such conditions and, about an hour after the initial sighting, the bird was duly relocated by RG, out towards the marker buoys in the main channel. It was seen also by about 15 local birders who had by then arrived in response to the news, although it was much more distant than during the original sighting, at a range of some 2.5 km. After a few minutes it was lost to view, probably because it was simply too distant to see. Some observers suggested that nearby large gulls might have taken it, as happened with at least two Leach’s Storm-petrels later in the day, but we consider that there is no evidence to suggest that that was the fate of the *Fregetta* petrel. It was flying strongly and we believe that it probably moved off down channel beyond our range of vision.

Description

Size

Although there were no other species nearby for direct comparison, Leach’s Storm-petrels were seen at approximately the same range shortly before and after the initial sighting. The *Fregetta* petrel was estimated to be between Leach’s and European Storm-petrel *Hydrobates pelagicus* in size, but closer to the former (JPM), or similar to the former, perhaps slightly smaller (AG).

Shape and flight

The *Fregetta* was a medium-sized, black-and-white storm-petrel with a flight action completely different from either Leach’s or European. It seemed compact, bulky and fat-bodied. The wings gave the impression of being relatively shorter and broader than the more angled and ‘flexible’ wings of Leach’s. The leading edge was curved and the rear edge straight (which somewhat recalled Wilson’s Storm-petrel *Oceanites oceanicus* to JPM) and the wing-tip rather pointed. AG noted that the arm was short and appeared slightly narrower at the body.

The tail was shorter than that of Leach’s (AG), square-ended and occasionally fanned (AG) or square-ended, possibly slightly rounded (JPM). At one point, AG wondered if the tail had a shallow fork but after discussing this during observation we decided that this was probably an artefact of the feet projecting beyond the tail. After further

scrutiny we were satisfied that there was a limited foot projection visible intermittently but we could not quantify it accurately.

The flight was striking. Apart from an occasional glide and a couple of short bursts of flapping flight, the bird flew with a low-level shearing action, on seemingly stiff (AG) or slightly bowed (JPM) wings, intermittently dipping down to the surface of the water, almost all the time travelling forward. Our descriptions of the flight were interesting: 'a twisting and dipping action, weaving from side to side' (AG); 'gliding and tilting, with low, banking mini-shears' (JPM); 'zig-zagging, quartering the water with hardly a wingbeat, like a puppet on strings' (RG). All these manoeuvres were executed at speed, with the bird probably never more than just a metre or two above the water, closely following the contours of the sea most of the time. The bird may well have been attempting to feed, since RG saw its feet dangling and AG noted that it appeared to make occasional contact with the water when it dipped to the surface. As it became more distant, it was shearing across the wind and kept popping up into view flashing its white belly in the sun then disappearing into the wave troughs.

Plumage

Upperparts The upperwing was seen well in good light as the bird tilted to show upper-side and underside alternately. The upperwings were essentially uniformly dark, with

just a faint contrast between very dark (blackish-brown) remiges and slightly paler, dark grey-brown mantle and coverts. There was no visible pale covert bar or patch, while the pale covert patch on Leach's was very clear at the same distance. The white rump patch was obvious and variously described by us as medium-sized, crescent-shaped and similar to that of European Storm-petrel. The rest of the upperbody, and the tail, was dark, blackish-brown. Fig. 2 shows the sketches of the bird made by AG and JPM and submitted to BBRC.

Underparts The underparts were also seen well. The head and upper breast were blackish, not contrasting with the upperparts but forming a hood that contrasted sharply with the unmarked white belly. The division of black and white on the breast was level with the division between the black and white on the leading edge of the underwing (see fig. 2). The white belly area was contiguous with the white rump, while the undertail-coverts were black immediately below the tail but no further up onto the belly. AG noted 'a hint of duskiness about the underparts which was not visible continuously and which I could not fully resolve' while JPM initially wondered if there was a hint of dusky shadow in the middle of the breast. Despite looking carefully at this area subsequently as the bird tilted and banked to show its underside, it continued to look white and we believe the impression of duskiness to have been shadow.

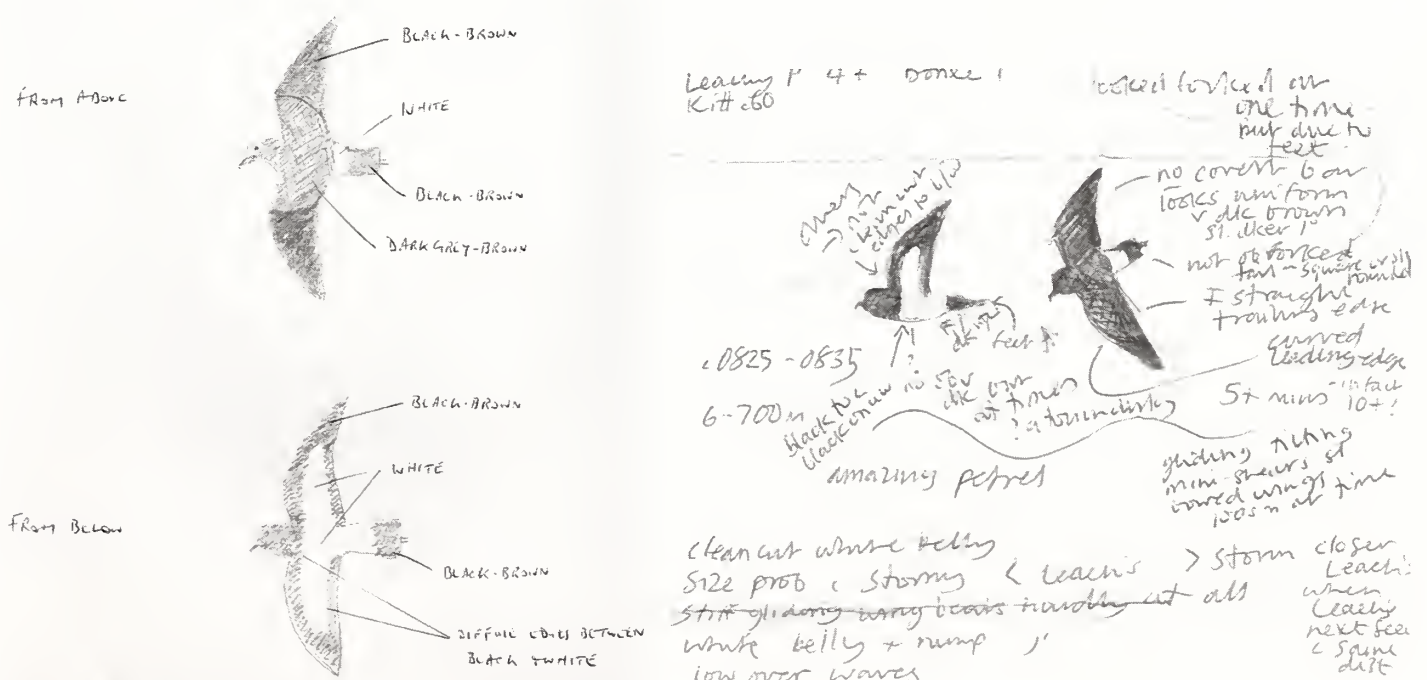


Fig. 2. Sketches of the Severn Beach petrel by Allan Gaunt (left) and John Martin (right).

The white underwing patch was much more extensive than in European Storm-petrel, being slightly wider at the base of the wing and tapering to a blunt point somewhere around the base of the primaries. AG described the underwings as white with a thick black margin forming a dark edge all the way round the wings. JPM described the black leading edge as slightly wider than the trailing edge. AG and RG described the demarcation between the black and white areas as not sharp or slightly diffuse.

Discussion Identification

Of the original five observers only AG had previous experience of the genus *Fregetta*, having seen ten presumed White-bellied Storm-petrels from a ship in the South Atlantic between Buenos Aires and the Falkland Islands. Having discussed the sighting with others by telephone, and looked through Onley & Scofield (2007) on site, we were completely happy that the bird was a *Fregetta* storm-petrel based on its distinctive plumage, flight, shape and size. We also agreed that no dark markings could be seen on the belly. Subsequent research strength-

ened our view regarding the identification to genus but also highlighted how complicated the taxonomic issues are and the difficulties of allocating a white-bellied bird to species level. Flood & Thomas (2007) stated that, with a satisfactory analysis of size, structure, plumage and flight behaviour, most storm-petrels encountered in the North Atlantic can be identified with confidence with the exception of a white-bellied *Fregetta*.

Few of the world's storm-petrels show the combination of a white belly, a contiguous white rump and an extensively white underwing together with an otherwise all-dark plumage. The recently rediscovered New Zealand Storm-petrel *Pelagodroma marina maoriana* is perhaps most similar in terms of plumage (and indeed it is included in the genus *Fregetta* by some authorities, including the IOC) but is smaller, with distinct streaking on the mainly white belly. White-throated Storm-petrel *Nesofregetta fuliginosa* can be somewhat similar but its pale morph, which has a white belly, has a striking white throat patch and it is larger than the *Fregetta* species. White-vented Storm-petrel *Oceanites gracilis* normally has an extensive pale belly patch but it is a smaller bird and the under-

wing is predominantly dark. None of these species seems at all likely to occur in the North Atlantic. New Zealand Storm-petrel frequents the waters round New Zealand, with vagrants recently in at least eastern Australia; White-throated inhabits the tropical Pacific; and White-vented occurs in the eastern Pacific from the Galapagos to Chile. Another species that could potentially be confused with a *Fregetta* is Grey-backed Storm-petrel *Garrodia nereis*, which has a wide distribution in the southern oceans, including the South Atlantic, but it has yet to be recorded from the North Atlantic. It shares the white underwing and belly and is similar in



Steve Howell

42. This bird, a white-bellied *Fregetta* petrel¹ photographed near Gough Island, in the South Atlantic, on 8th April 2009, matches our impressions of the Severn Beach bird rather well.

¹ Two taxa of white-bellied *Fregetta* petrels breed in the Tristan da Cunha archipelago and nearby Gough Island, in the South Atlantic (see text, pp. 89–90). The birds shown in plates 42–46 of this paper are one or other of these forms and are referred to here as 'white-bellied *Fregetta* petrels'. The Severn Beach bird is most likely to have originated from the South Atlantic but we cannot rule out the possibility that it may have been one of the white-bellied races of Pacific or Indian Ocean origin.

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43. White-bellied *Fregetta* petrel, near Gough Island, South Atlantic, 6th April 2009. Note the less extensive black 'hood' compared with a typical Black-bellied and the obvious foot projection.

shape, but it is smaller than a *Fregetta* and the grey back and rump are distinctive given a reasonable view of the upperparts.

The plumage pattern, size and structure of the Severn Beach bird fits a *Fregetta* perfectly; moreover, both species occur in the South Atlantic and at least Black-bellied is known to move north outside the breeding season, so they are more likely potential vagrants to British waters. The description of the flight pattern (one of the key factors in successfully identifying a storm-petrel, especially when viewed at long range) of *Fregetta* spp. in Flood & Fisher (2011) is 'like an accomplished exhibition windsurfer'. This summarises neatly how our bird flew, expertly



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44. White-bellied *Fregetta* petrel, South Atlantic, between Tristan da Cunha and South Georgia, 45°S 21°W, 6th April 2009. Note the contrast between the wing-coverts and remiges on this individual, as well as the obvious foot projection.

negotiating the waves and troughs. However, since there are no known differences in flight characteristics between the two *Fregetta* species, this alone offers no clues to the specific identification of the bird.

Black-bellied Storm-petrel has a circum-polar distribution in the southern oceans, breeding on islands of the Scotia Archipelago, through the southern Indian Ocean to the Antipodes Islands. Outside the breeding season (in the austral summer, from October to April) it disperses north into the subtropical and tropical zones of the Atlantic, Indian and Pacific Oceans, occurring regularly north as far as the equator. White-bellied Storm-petrel also occurs

Graham Ekins



45. White-bellied *Fregetta* petrel, off Tristan da Cunha, 14th April 2011. This photograph illustrates the stiff-winged flight that is often used by *Fregetta* petrels, including the Severn Beach bird.



Graham Ekins

46. White-bellied *Fregetta* petrel, near Gough Island, 10th April 2011. The relatively dark and uniform upperparts with just subtle contrast between wing-coverts and remiges, the wing shape and the rump pattern all match the Severn Beach bird well.

Steve Howell



47. Black-bellied Storm-petrel *Fregetta tropica*, WSW of Campbell Island, New Zealand, 17th November 2008. Note the extensively black vent, plus the fact that an extensive black chest was visible in the field. Very few Black-bellied Storm-petrels lack a black belly stripe.

widely in the southern hemisphere, breeding in primarily subtropical regions of all the main oceans: on islands off Australia and New Zealand; the Austral Islands (French Polynesia) and Juan Fernandez Islands, Chile in the Pacific Ocean; the Tristan da Cunha archipelago in the Atlantic Ocean, and Île Saint-Paul (French Southern Territories) in the Indian Ocean (www.birdlife.org). It also breeds from October to April but its winter movements are currently poorly understood; Onley & Scofield (2007) suggested that it may be largely sedentary.

Going beyond '*Fregetta* sp.' is more difficult than might be expected in a genus that



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48. Black-bellied Storm-petrel *Fregetta tropica*, WSW of Campbell Island, New Zealand, 17th November 2008. The complete dark belly stripe is easy to miss in side-on views.

comprises only two species. Someone (arriving at Severn Beach too late to see the bird) was overheard to remark: 'You'd think they would have noticed what colour the belly was.' If only it was that simple! In some ways it is, and if your *Fregetta* has a black stripe along the centre of the belly, then it is a Black-bellied. If, like the Severn Beach bird, it does not, then things are much more complicated, since both species occur in a white-bellied form. Although it is widely acknowledged that the black belly stripe on a Black-bellied Storm-petrel can be difficult to see in the field, we are convinced that we would have seen such a stripe had it been

Steve Howell



49. Black-bellied Storm-petrel *Fregetta tropica*, South Atlantic, between Tristan da Cunha and South Georgia, 51°S 30°W, 4th April 2009. It would be hard to overlook the dark belly stripe on a banking and shearing individual that is as well marked as this.



Steve Howell

50. Black-bellied Storm-petrel *Fregetta tropica*, South Atlantic, between Tristan da Cunha and South Georgia, 51°S 30°W, 4th April 2009. The overall appearance of this bird shows similarities with the Severn Beach bird, although none of the watchers observed an extensively dark vent area or partial belly stripe.

Steve Howell



51. Black-bellied Storm-petrel *Fregetta tropica*, South Atlantic, between Tristan da Cunha and South Georgia, 51°S 30°W, 4th April 2009. Note the straight trailing edge and curved leading edge to the wing. This is an individual with more obvious pale covert patches and slight foot projection.

present, because of our vantage point close to sea level, because the bird's banking and tilting flight pattern showed both surfaces rather well and because we did look hard at this area of the bird. There is considerable variation in the strength of this feature within Black-bellied Storm-petrel, however, with a minority of birds showing a poorly marked or broken dark belly stripe or occasionally a clear white belly (Onley & Scofield 2007; Howell 2012).

Howell (2010) reviewed the identification and taxonomy of White-bellied Storm-petrel with particular reference to a record from Cape Verde in 1986 (see below). He noted that various populations of White-bellied Storm-petrel worldwide are quite distinct (and may realistically comprise several 'good species'). In particular, Atlantic birds do not necessarily show paler upperparts than Black-bellied and there is complete overlap in the degree of projection of the toes beyond the tail, both previously considered useful features for the separation of the two. He suggested that the extent of the dark hood is the best feature to separate them. Black-bellied Storm-petrels show a more extensive hood; while White-bellied Storm-petrels show a more restricted hood, sometimes giving them a 'pin-headed' look (Flood & Fisher 2011; Howell 2012). On the Severn Beach bird, the prominence of the white belly and the absence of any significant black marks or overlap of the black hood into the white belly

Daniel Lopez-Velasco



52. Black-bellied Storm-petrel *Fregetta tropica*, Banco de la Concepcion, c. 70 km northeast of Lanzarote, 18th August 2012. This individual is the most recent record of a *Fregetta* petrel in the North Atlantic.

are features on which our descriptions, comments and sketches are consistent. Although we all agreed that the division of black and white on the breast was in line with the division between black and white on the underwing, our opinions differed on the size and position of the hood. AG's sketch shows a more limited hood and narrower underwing margin while JPM's shows a wider underwing margin, and a more extensive hood that ends lower down the breast (fig. 2).

Taxonomy

Currently, two races of Black-bellied Storm-petrel are recognised: nominate *tropica*, which is circumpolar, and *F. t. melanoleuca* in the Tristan da Cunha archipelago (see below). Four races of White-bellied Storm-petrel are recognised, including nominate *grallaria* in the Tasman Sea and *F. g. segethi* in the southeast Pacific and Juan Fernandez Islands. The status of two larger forms, *F. g. titan* (in the Pacific) and *F. g. leucogaster* (in the South Atlantic (Tristan da Cunha) and Indian Ocean (Amsterdam and St Paul)) is uncertain and more research is needed.

Two taxa of white-bellied *Fregetta* petrels breed in the Tristan da Cunha archipelago and nearby Gough Island, in the South Atlantic. A white-bellied race of Black-bellied Storm-petrel *F. tropica melanoleuca* breeds alongside White-bellied Storm-petrels *F. grallaria leucogaster* on Inaccessible, and probably on Gough (where now rare) and

Nightingale Island (Flood & Fisher 2011; P. Ryan *in litt.*). These can be separated in the hand at least, but the differences are subtle. Howell (2010) concluded that the genus *Fregetta* is likely to comprise a number of cryptic species and suggested that future claims of 'White-bellied Storm-petrel' in the North Atlantic will benefit from good photographs or examination in the hand. We agree wholeheartedly and hope that the next one is seen and well photographed on a pelagic trip, and that its appearance matches that of the Severn Beach bird.

Other North Atlantic records of *Fregetta* petrels

White-bellied Storm-petrel was on the Western Palearctic list for some time, based on a sighting between the Canary and Cape Verde Islands (23°48'N 22°01'W) on 17th August 1986 (see Howell 2010). This was reviewed by Crochet & Haas (2008) who relegated it to *Fregetta* sp., though Howell (2010) showed that some of the criteria they used do not work with Atlantic *Fregetta* populations and suggested that the original identification as White-bellied Storm-petrel, in the conventional sense, should be upheld.

Subsequently, the first confirmed records of Black-bellied Storm-petrel for the Western Palearctic have occurred: two photographed on pelagic trips in 2011 and another in 2012. The first was on 8th August 2011, c. 30 km northeast of Madeira (Correia-Fagundes & Romano 2011); the next only a month later, on 10th September 2011, c. 70 km northeast of Lanzarote, Canary Islands (Lopez-Velasco & Sagardia 2011); and the third on 18th August 2012 in almost the same spot, Banco de la Concepcion, c. 70 km northeast of Lanzarote (www.birdingfrontiers.com). The last was well photographed and had an incomplete belly stripe.

Elsewhere in the North Atlantic, four more Black-bellied Storm-petrels have been photographed during pelagic trips off North Carolina USA, on 31st May 2004, 16th July 2006, 23rd June 2007 and 14th August 2010 (Howell 2012).

Finally, and potentially of most relevance to the Severn Beach bird because of the date, there was a strong claim of a *Fregetta* sp. off Sheringham, Norfolk, on 10th December

2007, which was considered 'not proven' by BBRC.

Conclusions

Any black-and-white storm-petrel with white underparts in British waters has to be something special, with Black-bellied or White-bellied Storm-petrels seemingly the most likely contenders, once a partial albino has been ruled out. Given the identification and taxonomic complexities of the genus, it may not be easy to go beyond this, though all proven North Atlantic records to date involve photographed Black-bellied Storm-petrels. The late date of our bird, and of the sighting from Norfolk, suggest that more seawatching effort in late autumn and winter might occasionally be worthwhile.

Having studied many photographs and video footage of *Fregetta* petrels and examined the specimens in the NHM, we are resigned to the fact that the Severn Beach bird must remain unidentified to species level at present. It did not resemble the smudgy and darker birds that are typical of Black-bellied and we suspect that it might have been one of the white-bellied forms from the Tristan da Cunha group, given that a South Atlantic origin seems most likely.

Looking forward, we hope that further records follow and that a pattern of occurrence and further clues emerge that might progress the identification of our bird of a lifetime.

Acknowledgments

Steve Howell kindly commented on an early draft of this paper and Peter Ryan provided an update on the status of *Fregetta* petrels in the Tristan da Cunha/Gough archipelago.

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Editorial comment Adam Rowlands, BBRC Chairman, commented: ‘Claims involving the *Fregetta* petrel complex have had a turbulent history with BBRC. One observer of a storm-petrel seen in Norfolk in December 2007 asked us to consider a submission of a *Fregetta* storm-petrel that was not assigned to species. We discussed that request with BOURC, who confirmed that they would be willing to review such a claim. With the observer’s permission, BBRC sent the documentation to Bob Flood for review. Bob was very supportive, but questioned some aspects and requested further information. This was duly supplied and Bob was satisfied that the bird was a *Fregetta* petrel as claimed, lending significant credibility to the record (and it was later published in Flood & Fisher 2011). However, when the record came to BBRC, the only other observer questioned the identification and claimed that he had seen features incompatible with a *Fregetta* petrel. Other observers present had been unable to get on the bird at all during its single fly-past. In these circumstances, BBRC had no choice but to find the record not proven. Our published criteria for acceptance of firsts for Britain state that ‘in the absence of photos, we should expect independent sets of notes from all the major observers (preferably with sketches) and sight of their field notes’. The Norfolk claim was effectively a single-observer record, given that the only other observer disagreed. The main observer is an exceptionally accomplished field observer and BBRC was very disappointed to reach this conclusion but there was no alternative given the circumstances (and the voting was unanimous).

‘This unfortunate outcome was (understandably) deeply upsetting to the principal observer; and after the Avon record we were asked to revisit the Norfolk claim. Normally, we consider recirculations only if new evidence is forthcoming, but after lengthy discussions we agreed to reopen the file. Once again there was support for the main observer and agreement that the Norfolk circumstances were highly unfortunate. However, the contrast with the situation in Avon – where the bird was multi-observed over a relatively long period, with descriptions and field sketches from several observers – is obvious. The ‘not proven’ decision was upheld for the Norfolk record and the Avon bird was accepted unanimously. BBRC members with field experience of the *Fregetta* petrels highlighted the difficulty of identification to species level in the field (discussed in the account above) and we duly concluded that the Avon bird could not be assigned to species level (see *Brit. Birds* 104: 566–567).’

Martin Collinson, BOURC Chairman, commented: ‘Only rarely does BOURC find itself in a position when it agrees that a first for Britain has occurred but cannot resolve the identification to species level. ‘Southern skua’ *Stercorarius maccormicki/antarcticus* and ‘Madeiran-complex’ storm-petrel *Oceanodroma castro/jabejabel/monteiroi* come to mind, and the unstable taxonomy and fly-away nature of seabirds means they represent a potentially rich seam of either/ors. In cases where identification of a ‘First’ to species level is not possible, BOURC recognises and publishes the occurrence of a new taxon for Britain, but the record is not included in the totals for the British List. The acceptance of this bird as a White- or Black-bellied Storm-petrel was published in the 40th BOURC report (*Ibis* 154: 212–215). On the basis of population size, range and known movements, Black-bellied Storm-petrel seems the most likely *Fregetta* taxon to occur in British waters and, as described here, has already been recorded in the North Atlantic. The first North American record of Black-bellied Storm-petrel was observed down to 30 m from a boat off Cape Hatteras by multiple observers, all of whom failed to see clearly the strong belly line which is readily apparent in the video and photographs. Some of those on board sensed the presence of some darkness on the belly in the field but dismissed it as shadow. A dark belly stripe would clearly be possible to miss on distant ‘seawatch’ views. Accordingly, no-one felt able to make a definitive judgement on identification of the Avon bird. Its occurrence has nevertheless focused attention on the *Fregetta* petrel complex as a potential prize for pelagics in British waters.’

Nest productivity of Woodlarks: a case study on the Thames Basin Heaths

John Eyre and Jim Baldwin

Dan Powell



Abstract The factors affecting the nest productivity of Woodlarks *Lullula arborea* breeding in the Thames Basin Heaths were investigated over four breeding seasons, 2009–12. Woodlark nests were located and the outcome of each breeding attempt monitored, in some cases using nest cameras to identify the cause of nest failures. Results are summarised for 148 nests. Predation, particularly by Red Foxes *Vulpes vulpes*, and poor weather were found to be major reasons for nest failure. A particular aim of the study was to determine the impact of grazing on nest productivity but, at the stocking densities experienced, the direct impact of cattle was found to be negligible. Information on recruitment of locally bred birds into the breeding population is also presented.

The Thames Basin Heaths SPA and Bourley and Long Valley SSSI

The Thames Basin Heaths (TBH) Special Protection Area (SPA) was proposed in 2001 and confirmed in 2005. It is a composite site of 13 SSSIs in northeast Hampshire, south-east Berkshire and north Surrey. It was classified because it supports internationally

important populations of three Annex 1 bird species: European Nightjar *Caprimulgus europaeus* (which is Red-listed), Woodlark *Lullula arborea* and Dartford Warbler *Sylvia undata* (both Amber-listed). Of these, Woodlark is the least numerous¹ with, at the time the SPA was proposed, a population of 149 territories, or 9.9% of the UK population

based on the 1997 national survey (Wotton & Gillings 2000).

Bourley and Long Valley (B&LV) SSSI occupies 824 ha, which comprises just under 10% of the total area of the SPA (8,275 ha). It contains a mosaic of heathland, woodland, mire, scrub and grassland habitats. The dry heathland areas are dominated by Heather *Calluna vulgaris*, Bell Heather *Erica cinerea* and Gorse *Ulex europaeus*, while Purple Moor-grass *Molinia caerulea* and Bracken *Pteridium aquilinum* are common in places. The woodland includes both planted and self-seeded Scots Pine *Pinus sylvestris*, and Silver Birch *Betula pendula* scrub. The land is owned by the Ministry of Defence (MoD) and used for military vehicle testing and troop training. The site is surrounded by human settlements, including the towns of Farnborough, Aldershot, Farnham and Fleet. This means that, in addition to military activity, recreational use of the site is high, particularly by dog walkers and mountain bikers.

In the absence of management, open areas soon become overgrown, although accidental fires are frequent and produce patches of open habitat that are particularly favoured by Woodlarks. In recent years, the MoD has also cleared large areas of birch and pine scrub, while grazing has been introduced with the aim of restoring heathland and improving the habitat for Annex 1 bird species. The aim of the work described here was to determine how the productivity of Woodlarks breeding on the site was affected by various factors including predation, weather, disturbance and grazing.

Methodology

The Woodlark, along with other species of heathland birds, has been monitored at B&LV for many years as part of an ongoing programme to inform habitat and access management across the SPA. During 2003–12, the number of Woodlark territories has varied within the range 17–30, primarily in response to the quantity and quality of

available habitat. For example, the population increased rapidly from 17 territories in 2005 to 29 in 2006 and 30 in 2007 following extensive scrub clearance work in the 2005/06 winter.

For this study, location of Woodlark territories started in February when the birds returned to the site and began to display. The authors, equipped with the necessary Schedule 1 licences, found the first nests usually in mid March. Details of each nest, including location, habitat, orientation and whether or not the locality was grazed, were recorded. Each nest was then monitored by visiting every few days until it either failed or the young fledged. Care was taken to minimise disturbance by observing nests without flushing the sitting female or, if necessary, waiting until she left the nest before inspecting the contents.

Although data are presented for the four years 2009–12, it was not until 2010 that an attempt was made to find every nest. This was an ambitious target and a few nests were undoubtedly missed, especially in 2011 when the season appeared to end particularly early. However, observation of the behaviour of each pair throughout the breeding season indicated that the number of missed nests represented a small fraction of the total. Also from 2010, five miniature digital cameras, obtained from the RSPB, were used to observe some of the nests (plates 53 & 54). These were battery-powered and had infrared LEDs, which enabled operation 24 hours a day. The cameras were triggered by motion sensors and proved to be particularly valuable in identifying the causes of nest failure. They also provided a great deal of information about Woodlark behaviour throughout the nest cycle.

The pulli were colour-ringed using unique combinations of colours, one of which was pale blue (the scheme colour). This colour was exclusive to Woodlarks ringed on B&LV and, rarely, at other local sites. No attempt was made to record survival rates systematically once the young had left the nest.

¹ Hard winters in 2008/09 and 2009/10 reduced the Dartford Warbler population by around 95%. Given a return to milder winters, however, the population is expected to recover to levels well above those of Nightjar and Woodlark. The cold conditions in late winter/early spring in 2013 reduced the Woodlark population by around 33%.

Table 1. Woodlark *Lullula arborea* territories, nests and their outcome on Bourley & Long Valley SSSI, 2009–12.

| | 2009 | 2010 | 2011 | 2012 | Totals |
|-----------------------------------|------|------|------|------|--------|
| Woodlark territories ¹ | 21 | 22 | 22 | 24 | 89 |
| Monitored nests ² | 28 | 42 | 34 | 44 | 148 |
| Successful nests ³ | 18 | 26 | 27 | 25 | 96 |
| Failed nests ⁴ | 8 | 16 | 7 | 17 | 48 |
| Outcome unknown ⁵ | 2 | 0 | 0 | 2 | 4 |
| Young fledged | 51 | 93 | 98 | 79 | 321 |

Notes

- ¹ Territories include those occupied by unmated males and pairs that did not breed.
- ² Monitored nests include only those to which at least two visits were made, during one of which the nest contained live eggs or young. More nests were found but not monitored for various reasons, for example because they were built but not used, predated before the first monitoring visit was made or deserted when found. Occasionally, fledged young were seen without the nest being found. See note 3 below.
- ³ Nests were defined as successful if at least one young fledged; however, where fledged young were seen without the nest being found, they are not included in the table. See note 2 above.
- ⁴ Nests which failed before monitoring began are not included in the table. See note 2 above.
- ⁵ In a few cases the outcome was unknown. This usually resulted when the nest was found empty a little earlier than expected but with no signs of predation or of young birds in the vicinity.

Nest productivity

The numbers of territories, nests and their outcome during 2009–12 are given in table 1.

Success rate

Excluding four nests where the outcome was unknown, 96 out of a total of 144 nests (66.7%) were successful in raising at least one young to fledging. This percentage varied considerably from year to year, ranging from 79.4% in 2011 to 56.8% in 2012. In total, 321 young were fledged, an average of 2.2 per nest or 3.3 per successful nest. Most pairs had at least two nests, frequently three and occasionally four if earlier attempts failed, but there were no examples of a pair having three successful nests.

Excluding the data from 2009, when we did not attempt to find every nest, the annual productivity was 4.0 fledged young per territory, but this number is a minimum because four family parties were seen after fledging

without the nests being found in 2010–12. These additional young raise the average productivity to 4.2 fledged young per territory (using the four-year average of 3.3 young per successful nest).

Causes of nest failure

Nests failed either through predation or desertion (table 2). Here ‘predation’ is defined as the failure of a nest as a direct result of a predator taking the eggs or young. Rarely, only some of the eggs or young were taken from a clutch but one or more young still fledged successfully. These were categorised as successful nests. ‘Desertion’ covers the abandonment of a nest by the adults for any other reason, including unintentional disturbance and damage caused by people or animals, the impact of weather and unknown factors including the possible loss of the adults to predators. Both predation and desertion are discussed below.

Table 2. Causes of nest failure of Woodlark *Lullula arborea* nests at Bourley & Long Valley SSSI, 2009–12.

| | 2009 | 2010 | 2011 | 2012 | Totals |
|------------------------------|----------|-----------|----------|-----------|-----------|
| Monitored nests ¹ | 26 | 42 | 34 | 42 | 144 |
| Failed nests (%) | 8 (30.8) | 16 (38.1) | 7 (20.6) | 17 (40.5) | 48 (33.3) |
| Predation (%) | 6 (23.1) | 12 (28.6) | 5 (14.7) | 13 (31.0) | 36 (25.0) |
| Desertion (%) | 2 (7.7) | 4 (9.5) | 2 (5.9) | 4 (9.5) | 12 (8.3) |

Notes

- ¹ Excludes nests where outcome unknown.

Predation

Predation was the main cause of nest failure. Of the 48 nests that failed, 36 were lost to predators, an overall loss rate of 25% (36/144). The level of predation varied from year to year (table 2) from 14.7% in 2011 to 31.0% in 2012.

The nest cameras positively identified the predators at 13 nests. As shown in fig. 1, the most frequent predator was Red Fox *Vulpes vulpes*, followed by corvids (Carrion Crow *Corvus corone* and Magpie *Pica pica*; plate 55). This was surprising since it had been expected that the numerous crows at the study site, often seen feeding on the ground in the vicinity of nests, were the main culprits of Woodlark nest pre-

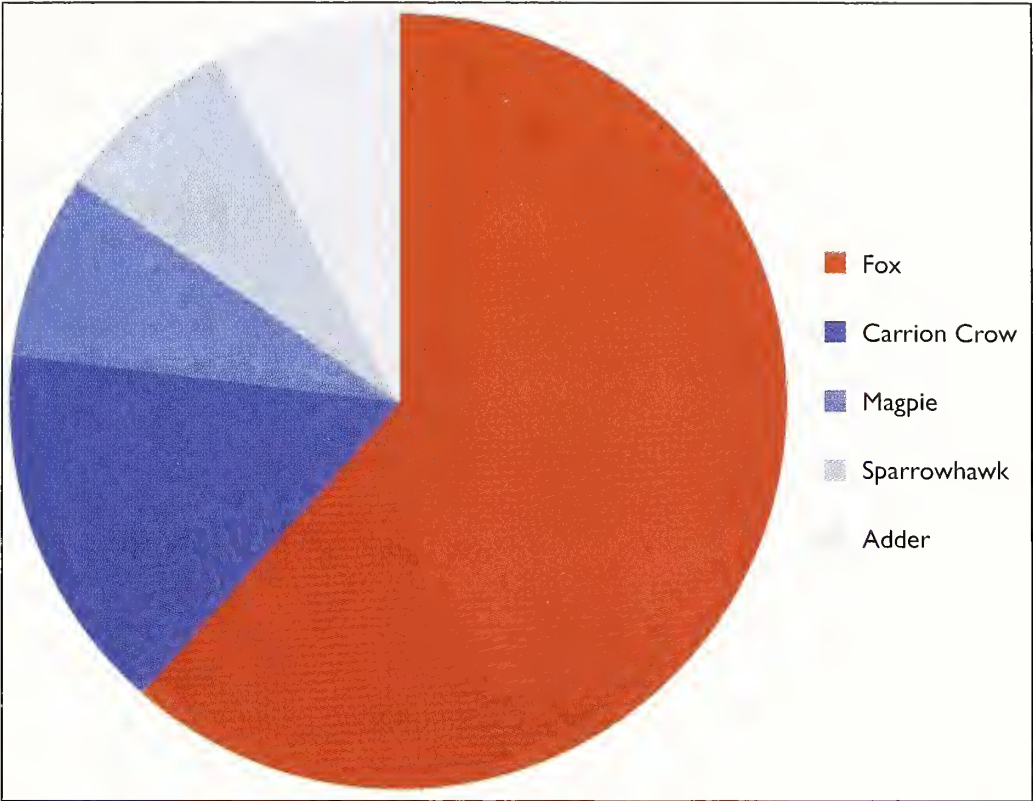


Fig. 1. The identification of predators at 13 Woodlark *Lullula arborea* nests in the study.

dation. Eurasian Sparrowhawk *Accipiter nisus* and Adder *Vipera berus* were the other nest predators recorded, predating one nest each. Foxes generally took all the nestlings shortly before they were due to fledge and at



53. Woodlark *Lullula arborea* nest with camera in place. The camera was typically placed 0.5–1.0 m from the nest and hidden in vegetation. Battery and control equipment were connected to the camera by cable and buried around 3 m from the nest.

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night, presumably relying on scent to locate their prey. They left nests empty but undamaged. In contrast, corvids took eggs or young during daylight hours and destroyed the nests by pulling out the lining. Based on this simple forensic difference, it is likely that many additional nests not monitored by cameras were taken by Foxes and to a lesser extent by corvids, although this does not take into account other, unidentified predators. For example, three nests were found with broken eggshells either in the nest or close to it, suggesting that a small mammal or another bird was responsible. Dogs and cats were not identified as predators, although they cannot be ruled out. In fact only one dog was seen on camera, walking close to a nest after the young had fledged.

Desertion

Desertion had a much smaller impact on productivity than predation, accounting for just 12 nests, a quarter of all failed nests (table 2). Nests were seldom deserted without some obvious cause, usually associated with physical damage to the contents (including the impact of adverse weather, particularly heavy and prolonged rain). The desertion of a few nests for no apparent reason may have followed the predation of one of the adults but since these events were not witnessed

they have been classified as desertion rather than predation.

Disturbance and damage

Three nests were deserted following direct, physical damage, all of these events being captured on camera: one was run over by a mountain biker, one was stepped on by a runner and one was trampled by a cow (plate 56). Although limited in number and in their overall impact on the productivity of Woodlarks on the site, the manner in which these nests were lost clearly indicates the dangers of increasing levels of recreational disturbance and the need to control the level of grazing (see below).

Impact of weather

Weather conditions during 2011 and 2012, the two years producing the highest and lowest nest success rates respectively, were very different. While the March to July period in 2011 was warm and dry, the season in 2012 was the wettest on record. During this five-month period, weather records collected in Church Crookham, immediately adjacent to B&LV, show a total rainfall of 162.0 mm in 2011, compared with 335.2 mm in 2012, when April and June together contributed 257.1 mm (<http://homepage.ntlworld.com/bazjames>). In 2011 only two of the monitored nests were

deserted, one in which three young were crushed under a running shoe, the other in which three of the four eggs failed to hatch, possibly after the loss of an adult. In 2012, four monitored nests were deserted: in three the young died, presumably due to starvation and/or hypothermia, and in the fourth three eggs failed to hatch. Two more nests in 2012 were already deserted when first found (with cold, wet eggs)



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54. The nest camera was housed in a metal weather shield and fitted with annular infrared LEDs, which enabled it to work in all conditions, day and night.

and have not been included in the monitored total. Not only were the predation and desertion levels high in 2012, but fewer eggs were laid, fewer of those eggs hatched and fewer young fledged. Consequently, despite the higher number of pairs on the site following the above-average success rate in 2011, the number of young fledged per nest was the lowest over the study period.

Apart from reducing the rate of nest failure due to desertion, the good weather in 2011 (it was exceptionally warm and dry with low levels of humidity) may also have reduced the level of predation, which was substantially lower in that year than in any other year of the study. There could be several reasons for this, including fluctuations in the number of predators on the site. However, there is plenty of anecdotal evidence on the internet and elsewhere to show that dogs hunt best in damp weather; they have difficulty following scent in dry, calm conditions and it seems possible that the same may be true of Foxes. Since the predominant predator is the Fox, anything lessening its ability to locate Woodlark nests would lead to an increased nest survival and higher success rates.

Impact of grazing

In recent years landowners and managers have been encouraged to introduce grazing on heathland sites with the aim of improving the structure of the habitat and controlling the growth of grass and scrub. Since many heathland sites were grazed in the past, it is not unreasonable to suppose that this is a sensible management option. However, most of the TBH SPA sites had not previously been grazed within living memory. Moreover, this and other heathland SPAs have been established specifically to protect Annex 1 birds including the Woodlark and, while extensive work has been carried out to demonstrate the biodiversity benefits of grazing grassland (see Watkinson & Ormerod 2001) and woodland (Mayle 1999), there is much less information about grazing dry heathland. Furthermore, there is virtually no published information relating to the impact of grazing on the productivity of ground-nesting heathland birds (Lake *et al.* 2001).

There are a number of ways in which the

presence of livestock on heathland may affect Woodlark productivity. On the plus side, grazing may bring about beneficial changes to habitat structure and, possibly, also to food availability. Wotton & Gillings (2000) suggested that in helping to provide open sites with bare ground and a short sward, habitat favoured by Woodlarks, grazing of heathland should benefit Woodlark populations. However, there may also be negative impacts, for example through direct disturbance and damage to nests by trampling, through habitat changes predisposing nests to predation or through the loss of nest sites due to overgrazing (plate 57). Although there is little information relating specifically to heathland birds, the impact of grazing on ground-nesting farmland birds such as Skylark *Alauda arvensis* and Meadow Pipit *Anthus pratensis* has been investigated by several authors. Hounscome *et al.* (2010) found that, at both local and regional scales, nest survival



55. Top predators of Woodlark *Lullula arborea* nests. Foxes *Vulpes vulpes* generally took all the nestlings shortly before they were due to fledge and at night. They left the nests empty but undamaged. In contrast, the corvids, in this case a Carrion Crow *Corvus corone*, took eggs or young during daylight hours and destroyed the nests by pulling out the linings.



56. Results from the nest camera. Top: Running shoe after the jogger had stepped on the nest (which is visible as a black spot in centre right of frame). Middle: Mountain bike going over nest. Bottom: Cow's hoof squarely on nest. In all three cases the nests were deserted following the incidents.

was greater in ungrazed than in grazed habitat. Similar results have been found in other studies (Beinteman & Muskens 1987; Pavel 2004).

Finding the right balance is clearly important, although little hard evidence exists to guide the process, and cattle (or in some cases goats and Red Deer *Cervus elaphus*) have now been introduced onto most of the

TBH component sites. One of the main purposes in carrying out the work described here was to investigate whether grazing was having a positive or negative effect on Woodlark productivity.

Direct impact on nest survival

Cattle were introduced to three sections of B&LV (some 382.6 ha in total, about 46% of the site) in summer 2007. The intention was for light grazing to occur from then on, and to continue throughout the year. In principle, the presence of cattle on some but not all parts of the site would allow direct comparison between nest productivities on grazed and ungrazed areas. Unfortunately, a combination of unforeseen factors meant that the intensity of grazing was much lower than anticipated. The number of cattle present during 2009–12 varied from 0 to 112 (55 cows, 54 calves and 3 bulls) as shown in fig. 2. Although this represents a maximum grazing livestock unit (GLU) density of 0.24 per hectare¹, which is at the upper end of the range considered appropriate for heathland (Symes & Day 2003), the actual numbers of cattle during the Woodlark breeding seasons were usually much lower, with an average of just 38 animals in total or less than 0.08 GLU per hectare. Livestock numbers were also very variable and considerably lower at the beginning of the season than at the end: after 2009, the cows were taken off site to calve and not reintroduced until their offspring had been weaned in May/June, by which time the Woodlarks had completed their first nesting cycle. In July 2011, all the cattle were removed from the largest grazed area following several deaths due to lead poisoning (although the exact way in which the poisoning occurred has not been proven, it was most probably caused by the cattle ingesting fragments of spent ammunition on an old military firing range). The cattle were not reintroduced before the end of the study period.

The exposure of each nest to variable grazing levels makes interpretation of the results difficult. However, by splitting the nests into two groups – those that were not subject to any grazing and those that were

¹ Based on GLU values of 1.0 for a cow and a bull and 0.6 for a calf.

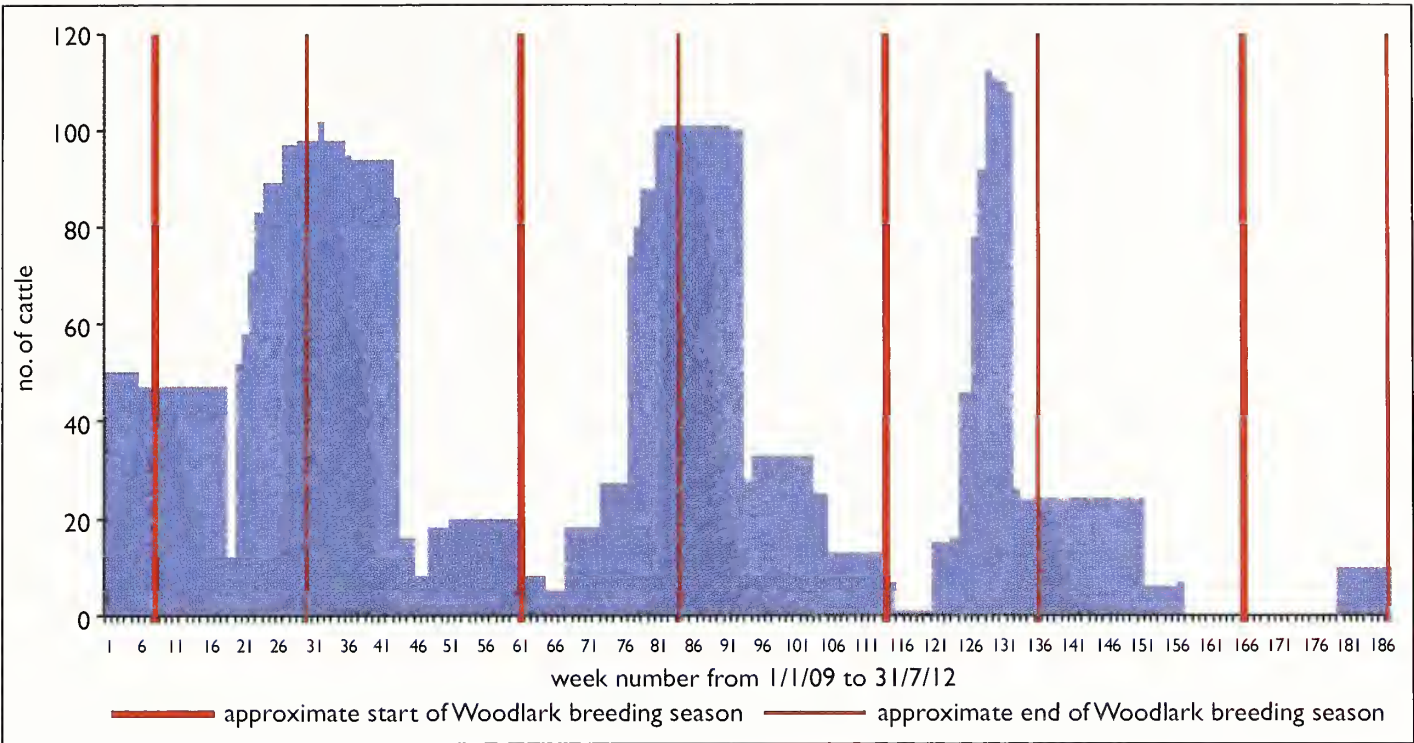


Fig. 2. Weekly variation in cattle numbers over the study period.

exposed to grazing at some time while the nest was active – a simple comparison can be made. During the four years of the study, of those nests where the outcome was known, 62 were ‘grazed’ and 82 were ‘not grazed’. The percentage of successful nests was 69% for the grazed nests and 65% for the ungrazed nests. At first sight, this suggests that grazing may have a small but positive effect on Woodlark productivity but this can be explained by the lower-than-average productivity in 2012, when only one nest was grazed. If the 2012 nests are removed, the percentage of successful nests remains at 69% for grazed nests but rises to 70% for the ungrazed ones. An analysis based on daily survival rates (DSR) shows a similar trend: a DSR of 0.9782 for grazed nests and 0.9762 for ungrazed (all years) and (even) closer DSRs, of 0.9781 and 0.9770 respectively, with the 2012 nests removed. Given the uncertainties, the results suggest that the cattle had no significant impact on nest outcome.

Does grazing improve Woodlark habitat?

This work has shown that, at the low levels of grazing experienced, there was no significant impact on Woodlark nest productivity. However, the question of whether grazing improves existing or creates additional Woodlark habitat remains to be answered. Although no systematic measurements of the effect of grazing on habitat were made during this study, observations showed that the cattle grazed preferentially on grass. Since about two-thirds of monitored nests were located in grassland, there is an obvious risk



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57. Cattle on typical Woodlark *Lullula arborea* nesting habitat in the study area, May 2011. Cattle may have a direct impact on Woodlark productivity through disturbance and damage to nests, for example by trampling or lying on them, or indirectly through habitat alteration, changes to the food supply or possibly by affecting predation.

that overgrazing will reduce the availability of nest sites. During the course of the study, two nests were exposed when the grass covering them was grazed away – one example is shown in plate 58. Of these, one was subsequently predated and one survived to fledge young.

The cattle also browsed on the fresh shoots of birch and, less frequently, on other woody saplings including Holly *Ilex aquifolium* and Scots Pine. While this may have slowed the rate at which the saplings developed, particularly when the animals were introduced immediately following scrub clearance, it appeared to have little overall effect in preventing long-term growth of scrub and maintaining the habitat in a suitable condition for Woodlarks. Regular manual intervention continued to be necessary even in those parts of the site that were the most regularly grazed. Since grazing is a relatively expensive management option, particularly if the substantial costs of fencing are

included, further work to assess the cost-benefit of grazing versus alternatives such as burning and mechanical clearance would be worthwhile.

Recruitment of locally bred birds into the breeding population

A total of 332¹ pulli were colour-ringed over the four years of the study (table 3, plate 59).

It was expected that an increasing number of marked birds would return to breed on the site in subsequent seasons. In 2010, just one colour-ringed bird from 2009 was resighted on B&LV, a male that bred successfully (raising six young in two broods) at a site approximately 2 km from the ringing location. Another male ringed in 2009 was seen holding territory on Chobham Common, a TBH site approximately 19 km from the ringing location. In 2011, eight colour-ringed birds were seen on B&LV including two 2009 birds and six from 2010. The individual

seen on Chobham Common the previous year also returned to that site. One of the most interesting sightings in 2011 involved a bird ringed on B&LV in May 2011, which was photographed on Broadmoor to Bagshot SSSI, approximately 11 km northeast of the breeding site, in October of the same year. This SSSI is another component site of the TBH SPA and another Woodlark breeding site. The presence of the bird from B&LV suggests that dispersal of first-year birds to potential future breeding sites may



58. Woodlark *Lullula arborea* nest exposed by cattle grazing away the covering grass, B&LV SSSI, June 2011.

| Table 3. Totals of Woodlark <i>Lullula arborea</i> pulli colour-ringed and resighted. This shows the number of resightings in a given year of pulli ringed in previous years | | | | | |
|---|------|------|------|------|-------|
| | 2009 | 2010 | 2011 | 2012 | Total |
| No. ringed | 48 | 96 | 97 | 91 | 332 |
| No. resighted on B&LV | - | 1 | 8 | 10 | 19 |
| No. resighted elsewhere | - | 1 | 2 | 0 | 3 |

¹ This number exceeds the number of fledged young because some young were predated post-ringing but pre-fledging.

take place in the autumn, although no further sightings of this bird were made to substantiate this idea.

In 2012, ten colour-ringed birds were seen on B&LV: one ringed in 2009 but not seen in intermediate years, three ringed in 2010, three ringed in 2011 and three additional birds for which the full ring combination was not determined. Of these ten, four did not breed. Considering that 241 pulli were ringed in the three years prior to 2012, the recruitment of just six back into the breeding population was surprisingly low. Given that the loss rate of adult Woodlarks has been determined at 40% per annum (Wright *et al.* 2009) it would be expected that, by 2012, only around 20% of the 2009 adults would have survived. However, of the 48 breeding adults in 2012 (a minimum based on 24 territories) only six were colour-ringed. Even allowing for the fact that not all pulli were ringed (particularly in 2009), a higher number would, by 2012, be expected to be breeding on the site. It seems clear that the population is being supplemented by birds recruited from elsewhere. The discovery of colour-ringed birds on other TBH sites confirms that interchange between the sites does occur. This in turn supports the idea that, even though the SPA is fragmented, consisting of 13 relatively small and widely distributed sites, as far as Woodlarks are concerned these are not isolated from each other.

Conclusions and proposals for further work

Given that this work was carried out at a single site, it is difficult to draw conclusions regarding Woodlark productivity across a wider range of habitats and locations. However, some of the findings are sufficiently general to suggest that they should be more widely applicable:



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59. The pale blue colour ring sported by this Woodlark *Lullula arborea* shows that it was ringed as part of this study, B&LV SSSI, May 2011.

- Predation, particularly by Foxes, was the most important cause of nest failure. Desertion was responsible for substantially fewer failures, although heavy, prolonged rain led to a lower success rate.
- At the low intensities of grazing experienced during the study, no significant impact on Woodlark productivity was apparent. Neither was there a noticeable benefit from the creation or maintenance of Woodlark habitat; manual scrub clearance continued to be required. Given the high expectations and substantial costs of grazing, further work to assess the cost-benefit and effectiveness of this versus other management options should be carried out as soon as possible.
- Colour-ringing studies showed that recruitment of locally bred Woodlarks into the breeding population of their natal site was low, indicating that birds from other locations were being recruited into the breeding population. This, combined with the sighting of B&LV-ringed birds elsewhere, suggests that interchange of Woodlarks occurs between the component sites of the SPA. Despite its fragmented nature, the TBH SPA would therefore seem to function effectively, providing an integrated stronghold for Woodlarks (and probably other Annex 1 species).

Acknowledgments

We should like to thank Hampshire and Isle of Wight Wildlife Trust for supporting this study as part of their habitat management programme on MoD-owned sites in the TBH SPA; and the MoD for allowing access to their land and encouraging the work. We are particularly grateful to Tony Davis, who put so much time and effort into colour-ringing Woodlark pulli, often at short notice; also to Durwyn Liley and Dave Leech for help with the calculation of daily survival rates, Nigel Butcher for advice on the use of his excellent nest-camera system, Alex Cruikshank for providing the grazing data and, last but not least, John Clark, for helpful suggestions and generous use of his red pen.

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John Eyre has been actively involved in the Hampshire Ornithological Society, first as Chairman of the Field Studies Committee and then as Chairman of the Society, from 1992 to 2012. He is particularly interested in heathland birds on the Thames Basin Heaths SPA. Jim Baldwin has been studying and photographing birds on the Thames Basin Heaths for about 30 years.

The BB/BTO Best Bird Book of the Year 2013

Abstract British Birds and the British Trust for Ornithology announce the winner of the Award for Best Bird Book of the Year. All books reviewed in *BB*, *BTO News* and on the BTO website www.bto.org during the year 2013 were eligible for consideration for this Award.

Some 80 books (about the average number in recent years) were eligible for consideration for the 2013 award. As usual, many of the books are entirely worthy representatives of a particular genre and will be of interest to their readers accordingly. Others push the boundaries and will challenge and inform their readers.

This year, once our choices had been made, we found that four of the six top books relate in some way to the interaction between birds and humans, explicitly so in the case of the winner, but also more or less directly in the

case of the last three, where, sadly, the relationship has not always been to the benefit of the birds. This was not a conscious choice, but we do wonder whether it may become a continuing theme in the future, given the pressure on so many bird populations. The remaining two books bring further innovation in a field guide and a publication that defies easy classification. We have pleasure in announcing the results – the top six in the overall shortlist, and a number of other titles that merit acknowledgment for a variety of reasons.

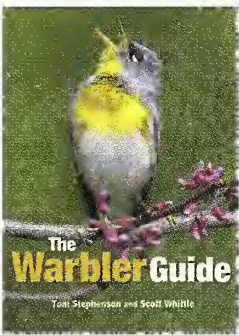
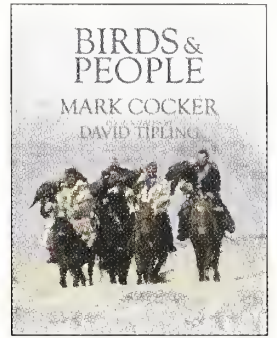
Winner

Birds and People

By Mark Cocker, illustrated by David Tipling; Jonathan Cape, 2013.

Reviewed in BB by D. I. M. Wallace (Brit. Birds 106: 557–558).

The title says it all (and, indeed, a book with the same title achieved a podium finish in this award five years ago – see *Brit. Birds* 102: 98–100). There is something particularly wide-ranging about the relationship between people and birds (even more so, for example, than with dogs and cats). The author sets out to explore many aspects of that relationship in what might be described as a global version of his earlier *Birds Britannica* (with Richard Mabey). Although the book still covers only a fraction of all that could be written on this subject (and we may lose cultural connections as quickly as we lose the birds themselves, through modifications of habitats), we defy anyone to dip into this book and its stunning photographs and not learn or be entranced by something.



2nd

The Warbler Guide

By Tom Stephenson and Scott Whittle; Princeton University Press, 2013.

Reviewed in BB by Peter Kennerley (Brit. Birds 106: 693–694).

One might be forgiven for not realising from the title that this identification guide is actually about the North American warblers. Although the males in spring are mostly a blaze of often astonishing colour, at the other end of the season females and immatures can fully justify the epithet 'confusing'. This guide is both comprehensive, in all aspects of identification, and innovative, particularly in its use of sonograms and simple representations of birds in flight. The photographs, both for those familiar with the birds and for those who are yet to have that pleasure, are mouth-watering.

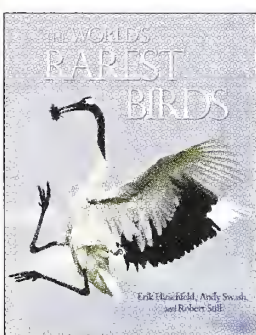
3rd

The Unfeathered Bird

By Katrina van Grouw; Princeton University Press, 2013.

Reviewed in BB by David Parkin (Brit. Birds 106: 294–295).

This is a most unusual bird book, and one that attracted a range of different scores from the judges of this award. The author brings together the eyes and talent of both an artist and a scientist, and this has clearly been a labour of love for her for some years. Painstaking attention to detail, subtle humour and a desire to inform are all evident. The subject matter, the musculature and skeletal adaptations of birds to their differing ways of life, may not be to the taste of everyone, but no-one can fail to learn something from this book or to appreciate the skill that has gone into it.



4th

The World's Rarest Birds

By Erik Hirschfeld, Andy Swash and Robert Still;

Princeton University Press/WILDGuides, 2013.

Reviewed in BB by Paul Harvey (Brit. Birds 106: 355–356).

It is a depressing fact that, despite some welcome relief at the edges, mostly as a result of intensive conservation efforts, the number of the world's endangered species of birds continues to grow. We can only hope that this beautifully illustrated book of iconic endangered birds, some photographed for the first time, will bring a consciousness of their plight and the need for action to the widest audience.

5th

Birds and habitat: relationships in changing landscapes

Edited by R. J. Fuller; Cambridge 2012. *Reviewed in BB by Mark Holling – see p. 108.*

All living organisms need somewhere to live and, in turn, they modify that environment to some

extent. None, however, has done more than *Homo sapiens* to affect whole landscapes. An understanding of how birds see and interact with their habitats is likely to be fundamental to understanding the forces behind population changes. This excellent synthesis of recent research by a range of contributors, mainly with an emphasis on Europe, deserves a wide audience.

6th

Partridges

By G. R. Potts; Collins 2012.

Reviewed in BB by Ian Newton (Brit. Birds 106: 118–119).

With a lifetime's research under his belt, Dick Potts's knowledge of partridges is unrivalled. While this monograph touches on other species, its main focus is on the Grey Partridge *Perdix perdix*, a species that has been in unremitting decline in Britain and Ireland for many years. The story of that decline is one of great changes to the management of the countryside, which have ramifications for many other taxa, and the author has brought together an immense amount of information in an accessible and readable form.

A number of other books that were eligible for this award also attracted the attention of judges:

Return to One Man's Island (by Keith Brockie, Birlinn, 2012 – see *Brit. Birds* 106: 48–49) and *The Long, Wild Shore – Bird and Seal Seasons on Blakeney Point* (by James McCallum, Silver Brant, 2012 – see *Brit. Birds* 106: 174). These two art books are especially evocative of their locations.

The Crossley ID Guide: Raptors (by Richard Crossley, Jerry Liguori and Brian Sullivan, Princeton University Press, 2013 – see *Brit. Birds* 106: 753). This, the second in the new Crossley series of guides, did not disappoint.

The Mandarin Duck (by Christopher Lever, Poyser, 2012 – see *Brit. Birds* 106: 354–355) and *The Rutland Water Ospreys* (by Tim Mackrill, Bloomsbury, 2013 – see *Brit. Birds* 106: 293–294). The two charismatic subjects of these books received somewhat different treatments: the first is a monograph by the most distinguished chronicler of introduced species and the second a more popular account of a recent success story.

Birds in a Cage (by Derek Niemann, Short Books, 2012 – see *Brit. Birds* 106: 234). This is the quirky, true story of the indomitable spirit of four Second World War prisoners of war, all of whom subsequently became distinguished in ornithological and other fields.

Multi-volume series do not fit entirely comfortably into the format of a competition such as this, but 2013 saw the completion of two such series, to which we wish to draw special attention:

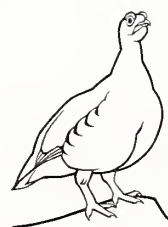
*Peter Wilkinson, Dawn Balmer, John Eyre, Peter Hearn,
John Marchant and Robin Prytherch,
c/o BTO, The Nunnery, Thetford, Norfolk IP24 2PU*

Handbook of the Birds of the World. Special Volume: New Species and Global Index (edited by Josep del Hoyo, Andrew Elliott, Jordi Sargatal and David A. Christie; Lynx Edicions, 2013 – see *Brit. Birds* 106: 695). The first volume of this magnificent series won this award in 1993, and a subsequent volume did so in 2002. It has become customary for the judges to draw attention to the appearance of successive volumes, all of which have been consistently of the highest quality. This Special Volume marks the end of the printed series, ambitious in its conception and outstanding in its achievement. All is not quite at an end, however, and we look forward to the success of the new online incarnation.

The Birds of Africa. Volume VIII: The Malagasy Region (by Frank Hawkins and Roger Safford; illustrated by John Gale and Brian Small; Christopher Helm, 2013 – see pp. 107–108). Following on from the seven volumes dealing with the rest of Africa and nine years after the appearance of the last one, this handsomely produced volume dealing with the rather special avifauna of the Malagasy region could stand as a handbook in its own right.

Acknowledgments

We are grateful to the BTO for making facilities available for judging at Swanwick, and especially to Carole Showell for sourcing books from the Chris Mead Library at Thetford.





Birds Atlas 2007–11: the breeding and wintering birds of Britain and Ireland

By Dawn Balmer, Simon Gillings, Brian Caffrey, Bob Swann, Iain Downie and Rob Fuller

BTO Books, 2013

Hbk, 720pp; many colour photographs, maps, graphs and illustrations

ISBN 978-1-908581-28-0 Subbuteo code M23901

£69.99 **BB Bookshop price £62.99**

It is hard to imagine any BB reader

being unaware of the publication of this landmark volume, which brought to a conclusion the largest piece of volunteer bird study ever undertaken in Britain and Ireland. Fieldwork for the Atlas finished only in July 2011 and little more than two years later the book is available. The initial feedback, when the Atlas was first available, all seemed to say one thing: this is the most important book of the decade and you really should own a copy!

I should, however, declare an interest, actually many interests, in this project. Atlasing is my favourite type of birding and seeing how the distribution and abundance of birds varies across the country is something I find relentlessly compelling. As a member of the Atlas Working Group, I had a chance to contribute to many aspects of the project from the early days and, in my capacity as Secretary of the Rare Breeding Birds Panel, I worked closely with the authors, especially Dawn and Simon, reviewing maps and texts for some of the rarer species in the book. Of course, I did a lot of fieldwork too, mainly in Scotland, and was the local atlas organiser for Lothian, so enthused about the project to local volunteers and validated and queried their records. *Bird Atlas 2007–11* has been an important part of my life, so the resulting book had a lot to live up to.

But what I didn't really see at all was the development of the actual book, which is the subject of this review. It was just as exciting for me opening that eagerly anticipated package as it must have been for everyone else who ordered a copy. Rather than talk about the fieldwork side of the project, I want to concentrate on how this book actually delivers to volunteer fieldworkers, local Atlas organisers, conservationists and professional ornithologists, and to the general birdwatcher who

just wants to know a bit more about birds.

It's a large-format (and heavy) book, one that's easier to read at a table than in an armchair or in bed. That was inevitable. The mammoth quantities of raw data and the fact that this Atlas is the first for Britain and Ireland to cover both the breeding season and winter means that there had to be constraints on what to include while still keeping it to one manageable volume. Personally, I think the end result is a good compromise. You can always look for more maps, more text, more analysis, but I think the book strikes the right balance. Most regularly occurring species get a double-page spread, with up to seven maps showing: breeding and winter distributions (at 10-km scale apart from more sensitive rare breeders); breeding and winter distribution changes (using a clever system combining shading and up/down arrows); and three maps showing relative abundance. Maps of relative abundance in the breeding season and winter use red and blue shading respectively, rather than the multi-coloured contour approach in the previous breeding atlas. The third map shows the change in breeding relative abundance since the last breeding atlas, and these maps are perhaps the most fascinating and revealing of all. There has been only one previous winter atlas (Lack 1986) but two breeding atlases (Sharrock 1976 and Gibbons *et al.* 1993), so change over both 20-year and 40-year periods can be mapped. For some species these produce really dramatic maps, for example Common Raven *Corvus corax* (increasing) and Woodcock *Scolopax rusticola* (decreasing).

Species that occur only in spring/summer, in winter or on passage, or which show no apparent change from previous atlases, have fewer maps, and sensible adjustments to the sequence of species have been made to accommodate those differences while making good use of the available

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space. In some cases, large colour photographs are used, in addition to the smaller photographs for all species at the head of the single column of text. These really enhance the overall appearance of the book; they depict birds in a variety of poses, not just standard portraits, and many show interesting behaviour or habitat. Each chapter is headed by a full-page colour painting (by David Daly) and this artwork further enhances the book's visual appeal.

Species texts are relatively brief but, in my opinion, are a great improvement on texts in earlier atlases for Britain and Ireland. They are succinct and well referenced; they answer questions about and pose questions generated by the maps. Space is not used up describing the birds, instead the focus is on a brief description of the maps, concentrating on changes and pointing the reader to other information using recent citations. The texts were written and edited by just a small group of authors and this has paid dividends, as they are consistent in style and quality.

The species accounts take up 490 pages of the book and there is enough here to keep bringing the reader back time and again. But there are seven chapters at the front of the book (147 pages) and five appendices (45 pages) plus 19 pages of references and a species index. There is much more in these pages too. I am particularly impressed that the background to the project, the methodology and the decisions made are documented meticulously and cross-referenced extensively, which will make future reference simple. Collection of data for this Atlas made extensive use of online web technology, a first for Britain and Ireland, and a major contributor to its success. If you want to know how data for this project were captured and analysed, and how maps were produced, it's all here. Coverage and effort is also discussed, to put the results into perspective. The ambitions and objectives of the Atlas Working Group have been very well served by these chapters.

One of the most stimulating chapters is that which looks at the pattern and change in the British and Irish avifaunas over a 40-year period. The authors admit that this is a preliminary analysis since there is (still) much to be done to make full use of the dataset gathered for this project. This will form the focus for a programme of scientific work over the next ten years and more, if funding can be found. But even with those constraints there is erudite comment on how bird populations have changed. Perhaps this is best encapsulated by the maps on page 132, which show spatial abundance changes for nine groups of

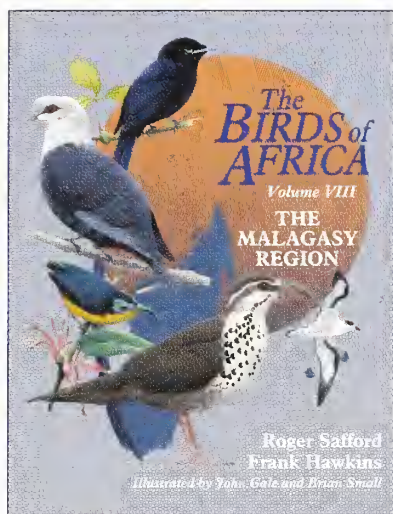
breeding species, such as farmland birds, woodland birds, raptors, waders and migrant passerines. In dramatic fashion these show declines in breeding waders across the board and the relative decline in abundance of migrant passerines in most of south and east England but relative increases in the north and west, a pattern mirrored by woodland species. The breeding relative abundance change maps in the individual species accounts then provide the specific detail and here we see how they fit into the overall patterns. Look at House Martin *Delichon urbicum* and Willow Warbler *Phylloscopus trochilus*, and at Eurasian Curlew *Numenius arquata* and Common Redshank *Tringa totanus*. It is these messages that really show the value of such regular and repeatable atlases. Many changes in abundance are sufficiently strong to cause a shift in distribution. Thus in Britain (but not in Ireland) the distribution of many species with a southerly range has moved significantly northwards in the last 40 years (e.g. Lesser Whitethroat *Sylvia curruca* shifting north by 247 km). These changes are perhaps related to climate change, although some southerly species buck this trend, most notably Turtle Dove *Streptopelia turtur* (-301 km). And there are many other fascinating statistics. We all know about the recovery of the Common Buzzard *Buteo buteo*, but how many of us would have expected it to be the *sixth most widespread* species in Britain during the winter?

Do I have any criticisms? Some people have said that the text size and the maps are small and that a magnifying glass is required to peer at the dots on the maps. I don't find this; for me the choices made are a good compromise between legibility and use of space. I have found only one typographical error and one ornithological error (the first modern-day breeding of the Eurasian Spoonbill *Platalea leucorodia* was in the 1990s not the 2000s) but these are trivial points given the huge scale of the work behind the production of this book and the incredible results presented here.

If I were to have only one book on my bookshelves, it would be this one. The BTO, BirdWatch Ireland and the SOC, all six authors and everyone who has supported and been involved in this project should feel very proud now that there is a tangible result to all that work. There is no doubt in my mind that it serves the amateur fieldworkers and the professional ornithologists very well indeed.

Mark Holling





The Birds of Africa. Volume VIII: The Malagasy Region

Edited by Roger Safford and Frank Hawkins

Christopher Helm, 2013

Hbk, 1,024pp; 63 pages of colour plates

ISBN 978-0-7136-6532-1 Subbuteo code M21368

£150.00 **BB Bookshop price £135.00**

This is a monumental postscript to the *Birds of Africa* that dwarfs every previous

volume in that series. Volume VIII is the handbook to the birds of the western Indian Ocean: Madagascar, the Seychelles, the Comoros and the Mascarenes (Mauritius, Réunion and Rodrigues). These island groups are renowned as a hotspot for endemism – and the consequent extinctions of their endemic birds once humankind had discovered their isolated homes. In the not-too-distant past, the giant flightless Elephant Birds *Aepyornis* spp. roamed Madagascar, while Mauritius was the island home of the Dodo *Raphus cucullatus*.

The book's introduction is an overview of the physical geography, climate and vegetation of the island groups within the Malagasy region, illustrated by useful maps of all the main islands. Despite being the smallest zoogeographic region in the world, it has the second-largest phylogenetically distinct assemblage of vertebrate groups (after Australia) including five endemic primate families – and six endemic bird families (seven with the extinct Elephant Birds). In addition, Madagascar is home to 10,000 plant species, 90% of which are endemic to the island.

Madagascar, separated from the African mainland by the 300-km-wide Mozambique Channel and by 90 million years of evolutionary history, accounts for 106 out of the 157 endemic bird species of the region. With only 256 regularly occurring species, those 106 endemics represent 41% of Madagascar's birds.

The vast bulk of the book comprises 800 pages of detailed species accounts. Every species that occurs regularly in the region is included but widespread Eurasian or African species receive less coverage than the regional endemics. Each species account includes taxonomy, distribution, description, identification, voice, general habits, food, breeding habits and status/conservation.

What is so compelling about the birds of Madagascar and its satellite island groups is the distinctiveness of its native taxa. The six extant

endemic families are birds that are *so* different from those in mainland Africa: the mesites (Mesitornithidae), the ground-rollers (Brachypteraciidae), the Cuckoo-roller (Leptosomatidae), the asities (Philepittidae), the tetrakas (Bernieridae) and the vangas (Vangidae). The vangas are shrike-like birds (their closest relatives are the helmet-shrikes *Prionops* of Africa and the woodshrikes *Tephrodornis* of Asia) which have undergone an adaptive radiation in Madagascar to occupy a wide range of niches. Recent phylogenetic work using DNA analysis has resulted in the family being expanded to include 21 species of 15 genera including the newtonias *Newtonia*, a former babbler (Crossley's Vanga *Mystacornis crossleyi*) and a former flycatcher (Ward's Vanga *Pseudobias wardi*).

DNA work has enabled much to be learnt about the birds of the Malagasy region in the past decade with previous taxonomic classifications radically revised. For example, what were long regarded as five Madagascan 'greenbuls' in the Pycnonotidae have now been renamed 'tetrakas' and moved to the Bernieridae, a warbler-like radiation that embraces many previously problematic species. New discoveries have also been made: the Tsingy Wood Rail *Mentocrex beankaensis* of western Madagascar was only described formally in 2011 and the feared-extinct Madagascar Pochard *Aythya innotata* was rediscovered in 2006.

It is the prospect of extinction that overshadows any discussion of the birds of the Malagasy region. The last species to become extinct anywhere in Africa or its associated islands was Madagascar's Alaotra Grebe *Tachybaptus rufolavatus* in the late 1980s. The list of nearly 60 species that have become extinct in the region since the seventeenth century makes sobering reading. It includes several rails (Rallidae), pigeons (Columbidae) and those outsize 'pigeons' the Dodo and its close relative the Solitaire *Pezophaps solitaria* of Rodrigues. Poignantly, an entire plate (plate 48) is devoted to extinct species of the Malagasy region, bringing to life a few of those species that we will never get to see.

The plates by John Gale and Brian Small are

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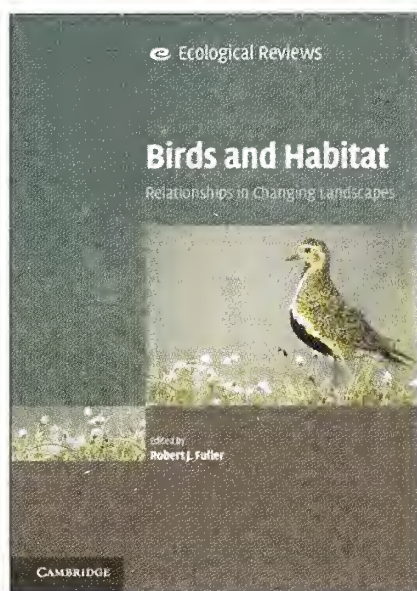


some of the best that have ever appeared in a handbook of this scale. Indeed they merit separate publication as a field guide to the islands; *BB* readers may well have enjoyed viewing them on John Gale's stand at the Birdfair in recent years. Plate 33, the ground-rollers, is particularly sumptuous. The initial 48 plates depict the regularly occurring species of the region, residents and visitors, while a further 15 plates at the end of the volume depict vagrants from Eurasia and Africa.

Volume VIII of *The Birds of Africa* is a worthy

epilogue to that series but stands alone as the definitive handbook to the Malagasy region. It should inspire all who read it to seek out the threatened birds of Madagascar and its island neighbours because those threats that first arrived with humankind 2,000 years ago – deforestation, hunting, introduction of alien species – have intensified in recent years. This magnificent book should not be their epitaph.

Adrian Pitches



Birds and Habitat: relationships in changing landscapes

Edited by Robert J. Fuller

Cambridge University Press, 2012

Pbk, 542pp; maps, tables and graphs

ISBN 978-0-521-72233-9 Subbuteo code M21707

£40.00 **BB Bookshop price £36.00**

If you have ever wondered why a bird occurs in a particular place, why it is associated with a par-

ticular aspect of habitat, or noticed that in different countries you find the same species in different habitats from those you are accustomed to in Britain, then I strongly recommend this book to you. As a *BB* reader, you must have an enquiring mind and this book will provide much food for thought.

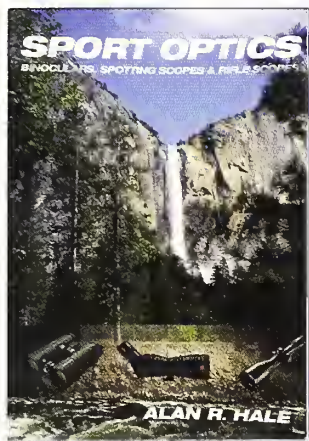
Rob Fuller has assembled 20 chapters covering a wide range of topics in three sections, entitled: 'The complexity of patterns and processes'; 'Case studies of habitat use and selection'; and 'Wider perspectives'. To the lay-birder, at first glance the titles of the chapters might seem a little off-putting, but stick with it – choose one and start reading, you will soon be hooked. Studies quoted, which cover mainly Europe but also America and Australia, are captivating and thought-provoking. An underlying message is that we need to look at habitats in the way that birds look at them. The way birds occupy habitats is not straightforward and can differ greatly in space and time. What we see as different may not actually be important to the bird. A better understanding of these mechanisms is not just interesting: it can help us to understand what drives population changes and how we can better conserve the species.

I could quote many examples that I found particularly fascinating but here is just one. Pied Flycatchers *Ficedula hypoleuca* respond well to the provision of nestboxes in woodland, but in some parts of Europe the number of breeding pairs is in decline. This may be because the breeding cycle of the flycatcher is now asynchronous with peak abundance of the principal food for chicks – leaf-defoliating caterpillars. This relationship is explored in detail, but in the process of reading about it I learnt that in their hurry to establish territories in spring, male Pied Flycatchers preferentially choose nestboxes already occupied by resident tits, often Great Tits *Parus major*. This may be because they use this pre-occupancy as a signal for the best territories, but it has its drawbacks. In a study in the Netherlands, male Pied Flycatchers have often been found dead inside the boxes, having been killed and their brains eaten by the tits. Given the potential risk involved, the advantage to the flycatchers of being in an optimum territory must be very significant.

Although there are 32 different contributors, the chapters have been edited into a common style, making it easy to move between chapters. I haven't counted the species covered by the book, but the index of bird names runs to almost six pages so there is something here for everyone! Buying and reading this book is a good investment and it deserves a wide audience.

Mark Holling





Sport Optics

By Alan R. Hale

Hale Optics, 2013

Pbk, 182pp; many illustrations, colour and black and white

ISBN 978-0-9897916-0-1 Subbuteo code M24138

£21.00 **BB Bookshop price £18.50**

This little book, by an author who has worked in the optics industry for over half a century

(and was president and CEO of Celestron for many years), covers binoculars, spotting scopes and riflescopes approximately equally. The first few chapters, almost a third of the book, cover the basics of what is a binocular/scope/riflescope, the different types, how to choose, where to buy and so on, and frankly can be skipped through pretty quickly by most birders who are basically familiar with their kit.

Chapters 9–11, covering about 55 pages, were the main focus of interest of the book for me. Chapter 9, optics details, covers – generally very clearly and with just the right level of detail – the technical properties of the optical system in sport optics. Aspects such as chromatic aberration, resolution, brightness, contrast, depth of field are explained from first principles; as well as elements of the manufacturing process such as coatings and the use of a fluorite element or ED (low dispersion) glass in objective lenses – and the differences between those two. Many of these areas are covered as well as anything I can remember reading. Chapter 10 covers optical aberrations and

collimation and chapter 11 focusing systems.

After that, a long chapter on riflescopes and some short chapters covering other aspects to consider when purchasing and then looking after optics are leavened with more interesting nuggets such as waterproofing and an assessment of likely future developments in the field. Various appendices include exit pupil and twilight factor tables, reference books and too many pages describing optical imports into the USA.

In short, when I came to write the review, I felt that about a third of this book was a really useful, well-put-together summary of the mechanics and properties of the optical system that every birder takes for granted – and the remaining two-thirds were pages that I would have little or no reason to look at again. The ‘good’ third is a really useful chunk of reference to have on your shelf, and it is well worth reading before shelling out on a new scope or bins. As the author remarks early on in the book, most optics manufacturers are relatively short on technical detail and long on ‘marketing hype and pretty pictures’. Making sure you understand the basics can only help the decision-making process, and this book does it as well as any.

Roger Riddington



Cover Birds

By Robert Gillmor

Two Rivers Press, 2013

Pbk, 67pp; many colour and monochrome illustrations

ISBN 978-1-901677-96-6 Subbuteo code M24140

£12.99 **BB Bookshop price £11.50**

This book chronicles the cover illustrations of the Reading (and then Berkshire) Ornithological Club’s annual bird reports since 1949, as well as ROC-related cover artworks such as the county avifauna. At first glance, you might be forgiven for thinking that this subject would be of limited interest away from the county’s birders, but given that the artist for this entire period has been Robert Gillmor it then gains a whole new significance. Here in this delightful little book the annual designs over the years are presented, with a

commentary detailing the methods, planning and execution of the cover artwork. Over this continuous timeline it nicely charts a history of the constraints and development of printing such journals, and reveals the ingenious and skilful solutions employed to produce attractive and workable covers each year.

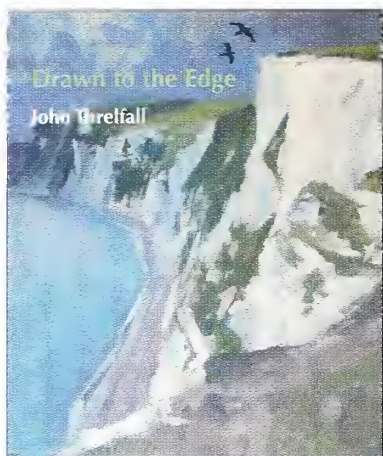
This treasure trove will interest all fans of Robert’s work, artists of all disciplines, and anyone with a connection to birds and bird reports.

Alan Harris

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Drawn to the Edge

By John Threlfall

Langford Press, 2013

Hbk, 189pp; many colour paintings and drawings

ISBN 978-1-904078-38-8 Subbuteo code M23643

£38.00 **BB Bookshop price £34.00**

The digital camera has undoubtedly brought a revolution to wildlife art.

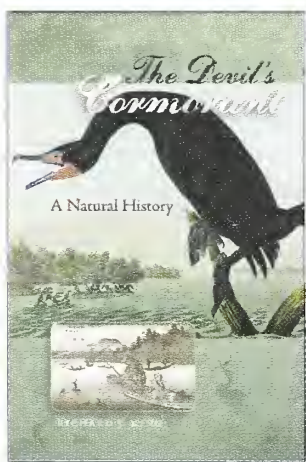
Many artists are now working directly from their own digital images to produce photographic-like renderings. Some have embraced the tool with varying amounts of personal interpretation, artistic skill and thought, while others indulge a slavish copying with absolutely no artistic understanding or input other than impressive technical skills in paint application. 'No, these aren't photographs!' proclaimed one proud billboard at the 2013 British Birdwatching Fair at Rutland Water. But they might just as well have been.

Happily you can always rely on art and viewers of art for a reaction. There has for some time been a real renaissance in the UK scene for a looser style, achieved in the field, and capturing an essence of a fleeting moment. Some mistake a freer style for poor draughtsmanship – indeed some artists disguise themselves behind it, but at the top level

several – including David Bennett, Darren Woodhead, James McCallum and the American Barry Van Dusen – have come to the fore. John Threlfall, with his second book in the Langford Press series, is firmly established here too. His latest offering takes the theme of Britain's varied coastline as the subject on which to hang the wildlife paintings and drawings, characterised by often strongly lit scenes constructed in coarse dabs of paint, deftly and loosely applied. This apparently carefree style is, of course, anything but; this work is still accurate of form and proportion and carefully composed. John, like those mentioned above, is a consummate draughtsman beneath all the bold strokes.

I tried to like the unusual form of the artwork captions – random thoughts, lacking punctuation – but ultimately I wasn't enamoured. And, once again, I appeal for dimensions to be given for the main works – I get the feeling that many of these painting are big... All in all, however, a thoroughly enjoyable book.

Alan Harris



The Devil's Cormorant: a natural history

By Richard King

University of New Hampshire Press, 2013

Hbk, 352pp; black-and-white photos

ISBN 978-1-61168-225-0 Subbuteo code M24141

£23.00 **BB Bookshop price £20.50**

In this book, Richard King, senior lecturer in 'Literature of the Sea' with the Williams-

Mystic Studies program, explores this misunderstood family of birds. For a long time, cormorants have been symbols of gluttony, greed, evil and bad luck, and have led a troubled existence in human history, myth and literature.

The Devil's Cormorant follows this group of birds around the world, across seasons and through history, to explore our literary, historical, cultural, scientific, artistic and political relationship with cormorants. In doing so, the book takes the reader to Antarctica, Bering Island, Japan, Cape Town, the Columbia River, the Mississippi Delta, the Mystic River in Connecticut

and Lake Ontario – as well as Inishmore in Galway Bay and the British Museum at Tring.

Cormorants live alongside nearly every major body of water on our planet – fresh water and salt water, river and ocean, urban and remote, tropical and arctic – and they therefore come into close contact with people. They have been hugely prized as a source of mineral wealth in Peru and by Japanese fishermen who still follow a tradition of using leashed cormorants to catch fish. In contrast, cormorants have been hunted to extinction in the Arctic; Satan took on a cormorant's guise in Milton's *Paradise Lost*; and they have been despised and exterminated by those with fisheries interests in many countries across the globe. These birds are both friend and foe, protected and hated. *The Devil's*

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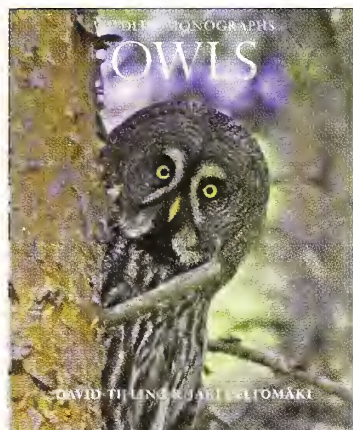
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Cormorant combines natural history, social and economic impacts through a series of stories, each told with compassion and humour. *The Devil's Cormorant* has been researched thoroughly, and through Richard King's travels and interviews, opinions are many and diverse, but all the stories are told in an absorbing way. Despite having an interest in

cormorants, this is not a book that I would have been immediately inspired to pick up and read. However, I have really enjoyed reading it and I would recommend it to anyone with an interest in natural history and its relationship with people.

Stuart Newson



Owls

By David Tipling and Jari Peltomäki

Evans Mitchell Books, 2013

Pbk, 96pp; many colour photographs

ISBN 978-1-901268-62-1 Subbuteo code M24137

£9.99 **BB Bookshop price £9.00**

This book showcases a stunning selection of the authors' photographs, depicting

all but one of Europe's regularly occurring owls. (The missing species is Eurasian Scops Owl *Otus scops* and given the otherwise full coverage it does seem a shame that it is missing, even though the book sets out to deal with 'northern Europe'.) There is an understandable bias in the space allocated to each species, reflecting the location of the authors in eastern England and Finland, as well as their personal preferences. Barn Owl *Tyto alba*, Hawk Owl

Surnia ulula, Great Grey Owl *Strix nebulosa* and Snowy Owl *Bubo scandiacus* have 56 photographs, whereas all the other species together have just 35. The accompanying text is secondary to the photographs but is lively and engaging. It complements the photographs well, especially when the authors are describing how some of the more challenging pictures were obtained. The book finishes with a 'fact file' section with 1–2 pages for each species. This is useful, though it mostly includes information that is readily available in good field guides.

Ian Carter

Finding Birds in South Portugal

By Dave Gosney; Easybirder, 2013;

DVD (78 mins) and booklet (40pp)

ISBN 978-1-907316-40-1

Subbuteo code V80101

BB Bookshop price £19.95

This latest offering from Dave Gosney explores three areas that have been overshadowed by neighbouring parts of Spain, yet have a great deal to offer in their own right – the Algarve, the plains of Castro Verde and the wetlands around Lisbon.

Dave introduces each of the sites with his own personal comments, then explains how a typical visit might develop. The video footage of birds is excellent with over 70 species featured. The booklet (which can be bought separately) provides really good maps with GPS co-ordinates. The sites start with the Tejo Estuary, which is right next to Lisbon and offers excellent winter birding, before heading south to the riches of the Algarve.

Keith Betton

Read a fuller review online at www.britishbirds.co.uk/category/book-reviews

Also new in the series:

Finding Birds in Extremadura

By Dave Gosney

Easybirder, 2013

DVD (86 mins) and booklet (32pp)

ISBN 978-1-907316-42-5

Subbuteo code V80097

BB Bookshop price £19.95

Finding Birds in the Canaries

By Dave Gosney

Easybirder, 2013

DVD (81 mins) and booklet (40pp)

ISBN 978-1-907316-44-9

Subbuteo code V80098

BB Bookshop price £19.95

Both of these guides are fully up to date, covering the key sites and species in these popular and straightforward destinations for British birders travelling overseas. The guide to the Canaries covers Fuerteventura (14pp in the booklet) and Tenerife (12pp) well, also Lanzarote (7pp) and a brief mention of La Gomera and La Palma.

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Recent reports

Compiled by Barry Nightingale and Harry Hussey

This summary of unchecked reports covers the new arrivals in the period from early December 2013 to early January 2014.

Headlines The prolonged and severe Atlantic storms that battered our coastlines brought yet more outstanding rarities to an already staggering year. In terms of rarity, the pick of the bunch was surely a drake 'Stejneger's Scoter' at Musselburgh on Boxing Day, the first British record of this Asian form of White-winged Scoter if accepted, and identified after the event from photographs. A Brünnich's Guillemot that showed well for six days at Portland was particularly popular, while an equally confiding White-billed Diver just along the coast in Devon was also much visited. At the other end of Britain, an American Coot turned up in Highland and a Marsh Sandpiper, previously unknown in winter, was discovered on North Uist. There were 'Thayer's Gulls' in Ireland and Wales, no fewer than five more Ivory Gulls, while long-staying flocks of Two-barred and Parrot Crossbills remained into the New Year. Glossy Ibises arrived en masse, with records from 23 English and nine Irish counties, with others in Pembrokeshire, Highland, Orkney, Outer Hebrides and Shetland. Other good finds included a Pied Wheatear in Hampshire, a Desert Wheatear in Gloucestershire and a Buff-bellied Pipit in Cheshire & Wirral.

Ross's Goose *Anser rossii* Marshside RSPB (Lancashire & N Merseyside), long-stayer to 23rd December. **Cackling Goose** *Branta hutchinsii* Long-stayers, Islay (Argyll), to 1st January, Lissadell (Co. Sligo), to 28th December. **Red-breasted Goose** *Branta ruficollis* Loaningfoot (Dumfries & Galloway), 15th December, then occasionally to 7th January; Shalfleet (Isle of Wight), 17th–20th December. **American Wigeon** *Anas americana* Long-stayers in Cheshire & Wirral to 5th January, Highland to 5th January, Co. Leitrim to 4th January and North-east Scotland to 7th January; others Northumberland 22nd December and 1st January; Orkney 31st December to 8th January. **Falcated Duck** *Anas falcata* Dix Pit (Oxfordshire), 21st–22nd December. **Baikal Teal** *Anas formosa* Marsh-

side RSPB, long-stayer to 11th December. **Blue-winged Teal** *Anas discors* North Ronaldsay (Orkney), long-stayer to 15th December. **Ferruginous Duck** *Aythya nyroca* Long-stayer, Blashford (Hampshire), to 15th December. **Lesser Scaup** *Aythya affinis* Long-stayers Cosmeston Lakes/Cardiff Bay Wetlands (East Glamorgan), to 1st January, Lough Gill (Co. Kerry), to 17th December and South Uist (Outer Hebrides), intermittently to 9th January; others Alturlie Point (Highland), 12th December to 8th January; Dozmary Pool (Cornwall), 29th December to 9th January. **King Eider** *Somateria spectabilis* Long-stayer, Blacksod (Co. Mayo), to 8th January; Eyebroughy/Fidra/Gullane Bay (Lothian), 13th–14th December, one or two 15th–29th December, one to 9th January;

Bluemull Sound (Shetland), 20th and 28th December. **Surf Scoter** *Melanitta perspicillata* Long-stayers Co. Cork, two, to 3rd January, one to 7th; Denbighshire, up to five to 5th January; Dorset to 8th January; Fife to 28th December; also Lothian, 21st December to 8th January; Gwynedd, two, 28th December, one to 29th; Co. Antrim, 29th December to 1st January; Gower, 29th December. 'Stejneger's Scoter' *Melanitta deglandi stejnegeri*, Musselburgh (Lothian), 26th December.



Rich Andrews

60. Second-winter White-billed Diver *Gavia adamsii*, Brixham, Devon, December 2013.

White-billed Diver *Gavia adamsii* One or two were seen intermittently in Bluemull Sound; also Kirkabister (Shetland), 5th January; Brixham (Devon), 25th December to 8th January.

Cattle Egret *Bubulcus ibis* Long-stayer Buckinghamshire to 9th January; also Devon, 16th–25th December and 7th–9th January; Co. Waterford, two, 21st–27th December, one to 8th January; Co. Wexford, 21st December; Cornwall, 3rd January. **Glossy Ibis** *Plegadis falcinellus* records of mostly singles from Bedfordshire, Co. Cavan, Cheshire & Wirral, Cleveland, Co. Cork, Cornwall, Devon, Co. Donegal, Dorset, Essex, Co. Fermanagh, Co. Galway, Gloucestershire, Greater London, Greater Manchester, Highland, Kent, Co. Kerry, Lancashire & N Merseyside, Lincolnshire, Co. Mayo, Norfolk, Northumberland, Nottinghamshire, Orkney, Outer Hebrides (four on 16th and 21st December), Oxfordshire, Pembrokeshire, Scilly, Shetland, Somerset, Staffordshire, Suffolk, Surrey, Co. Waterford, West Midlands, Co. Wexford (up to three) and Worcestershire.

Pied-billed Grebe *Podilymbus podiceps* North Uist (Outer Hebrides), long-stayer to 2nd January.

Black Kite *Milvus migrans* Long-stayer seen at various sites in Kent to 13th December.

American Coot *Fulica americana* Loch Flemington (Highland), 5th–9th January.

Baird's Sandpiper *Calidris bairdii* Blennerville (Co. Kerry), 28th December. **Lesser Yellowlegs** *Tringa flavipes* Lepe CP (Hampshire), long-stayer to 9th January. **Marsh Sandpiper** *Tringa stagnatilis* North Uist, 30th December to 9th January. **Short-billed Dowitcher** *Limnodromus griseus* North Ronaldsay, long-stayer 13th–14th and 28th December, again 7th January.

Brünnich's Guillemot *Uria lomvia* Portland (Dorset), 26th–31st December.



Stef McElwee

61. American Coot *Fulica americana*, Loch Flemington, Highland, January 2014.



John Kemp

62. Marsh Sandpiper *Tringa stagnatilis*, Kyles Paible, North Uist, Outer Hebrides, January 2014.

Forster's Tern *Sterna forsteri* Garretstown (Co. Cork), 14th December. **Ivory Gull** *Pagophila eburnea* Evie (Orkney), 12th–14th December; Patrington Haven (Yorkshire), 15th–25th December; Lewis (Outer Hebrides), 21st–29th



Kit Day

63. Brünnich's Guillemot *Uria lomvia*, Portland, Dorset, December 2013.

Recent reports

December; Hartlepool Headland (Cleveland), 4th January; Tacumshin (Co. Wexford), 8th–9th January. **Bonaparte's Gull** *Chroicocephalus philadelphia* Long-stayer, Dawlish Warren (Devon), to 9th January; Hayle Estuary (Cornwall), 27th December; Lochgilphead (Argyll), 5th January. **Ross's Gull** *Rhodostethia rosea* Salthill (Co. Galway), 4th January. **American Herring Gull** *Larus smithsonianus* Burry Holms (Gower), at least one 5th–6th January. **'Thayer's Gull'** *Larus glaucoides thayeri* Killybegs (Co. Donegal), 16th December; Burry Holms, 4th–8th January.

Snowy Owl *Bubo scandiacus* St Buryan (Cornwall), 8th December.

Hoopoe *Upupa epops* Pensarn (Conwy), 8th–26th December.

Gyr Falcon *Falco rusticolus* between Poolewe and Gairloch (Highland), 1st January; Stromness (Orkney), 2nd January.

Penduline Tit *Remiz pendulinus* Stodmarsh (Kent), 2nd January.

Hume's Warbler *Phylloscopus humei* Long-stayer Kelmarsh Hall (Northamptonshire), to 24th December; Ramsgate (Kent), late December to 9th January; Dungeness (Kent), 2nd–8th January. **Melodious Warbler** *Hippolais polyglotta* Long-stayer Winspit (Dorset), to 9th December.

Waxwing *Bombycilla garrulus* In Aberdeen

(North-east Scotland), up to 230 on 21st–22nd December; 31 Jarrow (Co. Durham) but few other flocks, mostly of 20 or fewer.

Rose-coloured Starling *Pastor roseus* Long-stayers Cornwall to 20th December, Norfolk to 22nd December; also Scilly, 17th December to 9th January; Warwickshire, 18th December.

Desert Wheatear *Oenanthe deserti* Severn Beach (Gloucestershire), 11th–14th December. **Pied Wheatear** *Oenanthe pleschanka* Monk Sherborne (Hampshire), 7th–17th December.

Buff-bellied Pipit *Anthus rubescens* Burton Marsh (Cheshire & Wirral), sporadically 21st–31st December, again 9th January.

Arctic Redpoll *Acanthis hornemanni* North Ronaldsay, 20th December. **Two-barred Crossbill** *Loxia leucoptera* Long-stayers Forest of Dean (Gloucestershire), 17 to 14th December, 12 to 29th and four to 9th January; Hemsted Forest (Kent), to 14th December; Lynford (Norfolk), to 14th December; Wyre Forest (Shropshire), three to 8th January; Leith Hill (Surrey), to 11th December; and Broomhead Resr (Yorkshire), eight to 19th December, seven to 7th January and five to 8th; also Knighton (Breconshire), 29th December. **Parrot Crossbill** *Loxia pytyopsittacus* Long-stayers Hemsted Forest, to 2nd January; Holt (Norfolk), 13 to 14th December and ten to 2nd January; Budby Common (Nottinghamshire), 14 to 9th January; Mayday Farm (Suffolk), 13 to 12th December, 11 to 8th January and three to 10th; Tunstall Forest (Suffolk), ten to 16th December, eight to 19th and one to 22nd December; also Broomhead Resr, 14th and 22nd December; Bardney (Lincolnshire), 17th–20th December; Ashdown Forest (Sussex), 20th December, then nine 27th December to 6th January; Wapley Hill (Herefordshire), 22nd December; Norwood Edge (Yorkshire), two, 2nd January.



Phil Woollen

64. Buff-bellied Pipit *Anthus rubescens*, Burton Marsh, Cheshire & Wirral, December 2013.

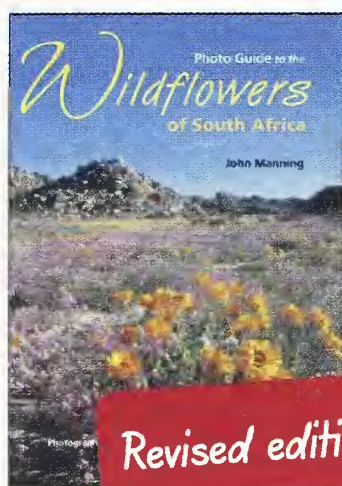


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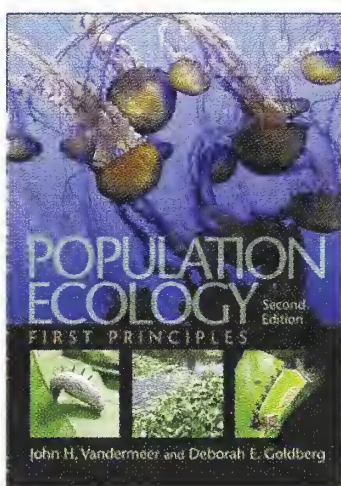
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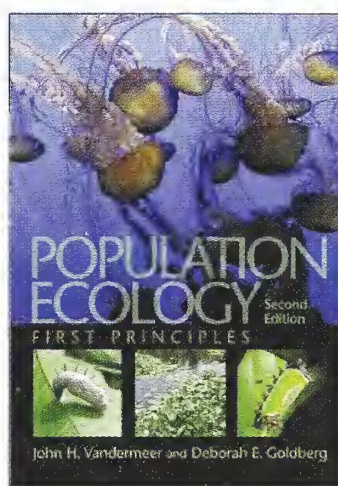


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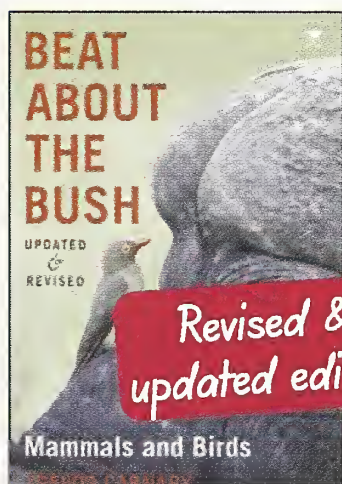
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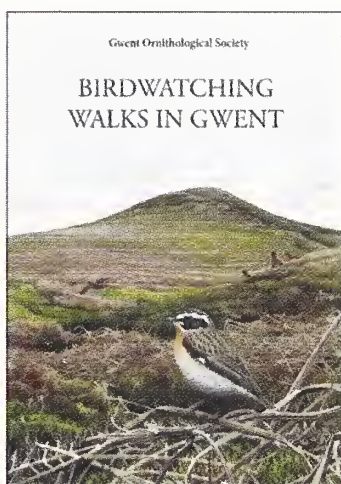


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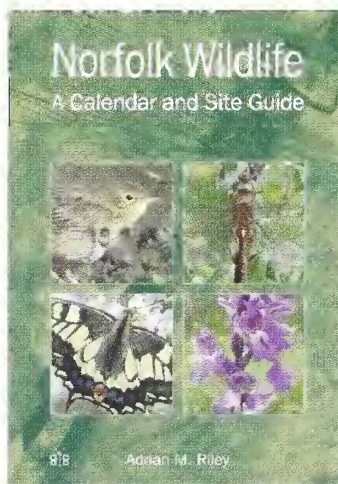


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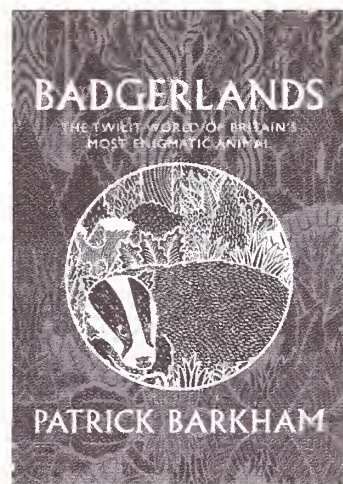
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